

## Report

# Community participation in environmental health: Eastern Azerbaijan Healthy Villages project

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مشاركة المجتمع في صحة البيئة: مشروع القرى الصحية في شرق أذربيجان

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**الخلاصة:** يهدف هذا المشروع في قرى شرق أذربيجان إلى تحسين المشاركة المجتمعية في المناطق الريفية التابعة لبرنامج القرى الصحية، وهو يغطي 1680 قرية. وقد تم إجراء 3605 دورات تدريبية للعاملين الصحيين وسكان القرى حول صحة البيئة، وذلك على عشر مراحل بين عامي 1992 و2000. وأنشئت المجالس الصحية للرجال في 92% من القرى، والمجالس الصحية للنساء في 62% من القرى. وقام المواطنون بجمع النفايات الحيوانية وتحسين عملية تجميع الفضلات الزائدة. وقد حدث انخفاض واضح في انتشار الأمراض الطفيلية في هذه المنطقة في أعقاب تنفيذ هذا المشروع.

**ABSTRACT** The objective of this project in East Azerbaijan villages was to improve community participation in rural areas in a Healthy Villages programme. The project covered 1680 villages, and 3605 training courses for health staff and village residents on environmental health were conducted in 10 stages from 1992 to 2000. Men's and women's health councils in villages were established in 92% and 62% of villages respectively. In 39% of villages, people collected animal waste and improved the disposal collection process. A decrease in the prevalence of parasitic disease in the area was prominent after the project.

Participation de la communauté à l'hygiène de l'environnement : le projet « Villages-Santé » en Azerbaïdjan oriental

**RÉSUMÉ** Ce projet mené dans les villages de l'Azerbaïdjan oriental avait pour objectif d'améliorer dans les zones rurales la participation de la communauté à un programme « Villages-Santé ». Ce projet englobait 1680 villages et a donné lieu à 3605 stages sur l'hygiène du milieu, s'adressant tant aux personnels de santé qu'aux villageois, qui se sont déroulés en 10 phases entre 1992 et 2000. Des comités de santé ont été créés dans les villages : comités d'hommes dans 92 % des villages et de femmes dans 62 %. Dans 39,2 % des villages, les habitants ont collecté les déchets animaux et amélioré le processus de collecte et d'élimination spécifique. À l'issue de ce projet, on a pu constater une diminution remarquable de la prévalence des maladies parasitaires dans cette région.

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## Introduction

Health is determined by many factors, including income, environmental conditions, such as access to adequate sanitation and safe water supplies, individual behaviour, and health services. More than half of the world's population lives in villages and rural areas and most of those are without access to safe water sources or basic sanitation. Enabling rural populations to protect and improve their health is a major challenge worldwide. Healthy Villages as a concept was first proposed by the World Health Organization (WHO) Regional Office for the Eastern Mediterranean (EMRO) in 1989 in a technical consultation on urban environmental health [1]. Healthy Villages is a holistic approach intended to address the critical environmental health problems in rural areas [2].

A Healthy Villages project promotes local action by community members, mobilizing human and financial resources to build healthy environments and promote healthy behaviours. Due to the importance of the subject, WHO has given great priority to environmental health programmes. The most important message of the United Nations environmental health conferences in Rio de Janeiro in 1992 and Istanbul in 1996 was the integration of environmental health in sustainable development and inter-sectoral and community participation [3].

Unfortunately, according to a WHO report, despite great efforts in the safe water decade in the Eastern Mediterranean Region (1980–90), in most rural areas in the Region there is insufficient access to drinking water and sanitation is at a minimal level. In addition, lack of correct solid waste disposal and waste in villages leads to high levels of infant morbidity and mortality [5].

In the Islamic Republic of Iran a dynamic and extensive rural environment

programme, covering the whole country, had been in existence since the mid-1980s, even before the WHO Healthy Villages concept was put forward. The programme is executed by the Environmental Health Directorate General in the Ministry of Health and Medical Education and works within the primary health care (PHC) system. The operation of the programme at the village level rests mainly on the PHC worker in the health house, known as the *behvarz*, and the main technical support is provided by engineers and technicians at the Ministry of Health. Under this programme, which is now also known as Healthy Villages, remarkable progress has been achieved. However, poor intersectoral and community participation meant that many of the objectives of the programme have not been achieved.

Therefore, in the early 1990s a project for mobilization and participation of rural residents for improvement and sanitation of the rural environment was designed by the provincial health centre of East Azerbaijan. This paper describes the project and an evaluation of the first 10 phases from 1992 to 2000.

## Background

East Azerbaijan Province with an area of 45 162 km<sup>2</sup> and 18 districts is located in north-west of the Islamic Republic of Iran. The population is 3.5 million, 40% of whom are settled in about 2800 villages, 1680 of which include PHC health houses that were covered by this project (1023 main and 657 satellite villages) [6].

The East Azerbaijan provincial health centre manages public health throughout the province via district health centres. There are 20 district health centres in this province that have managerial roles and

monitor peripheral health units including urban and rural health centres, health houses and mobile teams. This project focused on the activities of health houses. Each health house covers one large village and one or more satellite villages.

## Objectives of the project

The objectives of the project were to:

- establish a village committee made up of village residents to oversee activities and mobilize the community and facilitate their participation and contribution;
- increase community and health workers' awareness and conduct health and hygiene training;
- improve the water supply and sanitation systems, solid refuse collection and disposal, and food safety;
- enable the village residents to become partners for improvement of the rural environment;
- improve coordination among different public organizations to improve the rural environment.

The environmental parameters of villages—sanitation in rural environments, garbage disposal and animal waste, improvement of water supplies and sewage treatment—were judged to be the most important factors in controlling disease and promotion of health among village residents in this province.

## Implementation

The Healthy Villages project in East Azerbaijan province was implemented in 10 phases, from 1992 to 2000. Each phase started on 1 July and ended 30 November each year. At each stage these steps were followed:

1. Determining the environmental health status of villages at the beginning of each stage.
2. Determining the policies to improve and sanitize the provincial and district levels.
3. Negotiating with other sectors.
4. Establishing women's and men's health committees in villages (if these committees did not exist in previous stages).
5. Priority setting and planning for improvement along with health committees.
6. Training village residents to participate in the sanitation improvement project.
7. Implementing the programme with the cooperation of the village residents and other sectors.
8. Nominating the last week of each stage as "sanitation week" to celebrate the activities in successful villages.
9. Gathering health committee members at the district level to report and analyse problems and share their experiences.
10. Evaluating the project at the end of each stage by the provincial health centre.
11. Meeting of managers of district health centres to analyse the results, and identify strengths and weaknesses, to apply these in subsequent stages.

## Evaluation

At the end of each year, data are collected from the peripheral units in a standard format by the district and sent to be collated by the provincial health centre for comparison with information gathered in the previous stages. Available statistical reports before and after the project were used to evaluate the project.

The following parameters were compared in different stages of the project: number of staff participating in community training courses, proportion of villages with women's and men's health committees, proportion of villages achieving: sanitation of centres for processing and distribution of food, toilets in homes, sanitary garbage disposal, sanitary animal waste disposal and improvement of public areas.

- Staff training: Training programmes for health staff began at senior management levels and subsequently for other managers and environmental health workers.
- Community training: Methods of education were face-to-face training of village residents, dissemination of information by mobile speakerphones and mosque speakerphones, creative writing exercises about health-related issues in schools and advertisements and movie shows.
- Establishment of women's and men's health committees: Each health committee includes 4–8 members elected by local people, and health workers, whose task was to direct the project at the village level. The local *behvarz* was one of these members. Other health committee members comprised local respected people such as the village head, older men and women, teachers, religious leaders and ordinary community members.
- Community and intersectoral participation: Coordination with other public organizations and sectors was conducted through district health committees. The direct participation of the population was one of the prominent features of this project.

## Outcomes

In this project 1680 out of 2800 villages in East Azerbaijan were included. The cumulative number of villages at each stage is shown in Table 1. Among them, 1023 were main and 657 were satellite villages.

About 3000 health staff participated in a training course before each stage.

Men's health committees were established in 92% of villages and women's health committees in 62% (Table 2).

The participation of village residents and different organization was effective, especially in providing financial resources, equipment and education. More than 2 billion rials (more than US\$ 500 000) and 1423 tractors and 321 cars and vans were allocated to the project and also 82 200 school pupils participated in writing and drawing about the sanitation problems in their villages.

Table 1 Number of villages at different stages of the Healthy Villages project in Eastern Azerbaijan Province 1992–2000

Stage	Year	Cumulative no. of participating villages
1	1992	655
2	1993	671
3	1993 (phase 2)	671
4	1994	1006
5	1995	1163
6	1996	1338
7	1997	1473
8	1998	1547
9	1999	1614
10	2000	1680

Table 2 Number of women's and men's health committees during the 10 stages of the Healthy Villages project in East Azerbaijan province (1992–2000)

Villages	Total no.	Villages with health committees			
		Men		Women	
		No.	%	No.	%
Main villages	1023	999	98	750	73
Satellite villages	657	554	84	312	48
Total	1680	1553	93	1062	63

Table 3 shows that 39% of villages participated in collection of solid waste, 39% in collection of animal waste and 20% in improvements in streets and other public areas.

A total of 95 771 (45%) and 62 202 (30%) households actively participated in the sanitation installation by digging wells and building private bathrooms and also 7077 food centres (50%) were sanitized in the project.

A survey in the province (reported elsewhere) showed that the prevalence of ascariasis decreased from 15.7% to 8.1% and giardiasis from 9.8% to 4.9% among rural residents from 1990 until 1999 [6].

## Discussion

The Healthy Villages project was proposed in 1989 in order to complete the WHO concept of Healthy Cities. The main objec-

tive was the solving of rural environmental problems with training and organizing people and participation of related development sectors [4]. The first EMRO regional conference on Healthy Villages took place in Isfahan, Islamic Republic of Iran in 1995. In this conference strategic planning of the Healthy Villages was established, with specific objectives such as enabling the people of rural communities to improve their own environment, designing and implementing plans for participation of different organizations and capacity-building at the village and district level for environmental improvements. The activities include safe drinking water, installation of toilets, better housing, sewage and animal waste treatment systems, and improved food preparation hygiene [6].

The East Azerbaijan Healthy Villages project was designed at the same time as the EMRO project in 1992 with the same objectives. Before the project, plans for improvement of the rural environment had been implemented alongside other vertical governmental plans. These plans, however, did not have successful outcomes and were not supported by the community. Thus for many years, only 107 villages (6%) had a healthy system for disposal of animal waste and 73 (4%) villages had a sanitary system for disposal of solid waste at provincial level. After the Healthy Villages project 39% of

Table 3 Health measures improvements in Healthy Villages project in East Azerbaijan Province 1992–2000

Subject	No. of villages	%
Collection of solid waste	659	39
Collection of animal waste	659	39
Improved streets	341	20

villages had a sanitary system for disposal of animal waste and 39% for disposal of solid waste. It seems that the reasons for the failure of the project were the vertical process, concentration on government resources and the absence of effective and widespread training and lack of collaboration of different organizations.

A decrease in the incidence of parasitic disease is another outcome of the project. Surveys in East Azerbaijan province show that the prevalence of ascariasis decreased from 15.7% to 8.1% and giardiasis from 9.8% to 4.9% among rural residents from 1990 until 1999 [6]. This means that the incidence of these parasites has approximately been halved during the implementation of the project. It is possible that other factors could affect the rate of parasitic diseases, but it is likely that the project had been the most influential factor. A comparison of the sanitary toilets and safe water situation in rural communities from 1990 through 1999 in another survey shows an increase from 26.2% and 63.0% to 60.5% and 76.6% [6]. A similar project in Egypt with funding from the United Nations Development Program concerned water supply and sanitation and also had good outcomes in decreasing parasitic diseases [6].

Each village that attempted to participate in the Healthy Villages programme was expected to establish a committee at the local level to coordinate and support the different activities and provide leadership and serve as a communicator with the local and national government staff involved in the Healthy Villages programme. Establishment of health committees in this project had the main role in attracting community financial support and also played a key role in the successful implementation of the project. A total of 999 men's and 750 women's health committees were established that had major participation in designing

the project, training, supervision, resource generation, collaboration, and evaluation.

Public participation has been very influential in the similar projects in other countries. In Morocco, the Rural Water Supply and Sanitation Programme has developed through a close relationship between local rural governments (communes) and the community. The rural water supply has been developed through a partnership between the communes and local committees, with the communes providing technical support and advice [3]. Medical Committee Netherlands–Vietnam (MCNV) started working on health issues with ethnic minorities in Quang Tri province of Viet Nam in 1993. The programme was an approach to achieving a healthy village. Village residents participate in all levels of health development, planning, implementation, monitoring and evaluation. Village Health Development Plans (VHDP) were based on the villagers' own analysis of their health situation and solutions were implemented largely with their own resources [7], the same role as in health councils in the East Azerbaijan project. In Bhutan, a Model Village concept was introduced in 1993, following the success of promoting sanitation and hygienic practices through community participation. It included health education activities at the village levels, such as mobilization of village health volunteers, setting up village health posts and regular cleaning of the village. Competition between villages was introduced as a government mechanism to stimulate healthy villages [3].

Based on the experiences of other countries, the role of women as principal caregivers for the family and the health and environmental needs of children should be given priority [4]. The role of women at all stages of the East Azerbaijan project was prominent, especially through women's health committees. Children were also

themselves involved in the project through environmental cleaning exercises and writing and drawing about sanitary problems in their village.

Although our project had many strengths, we also faced some weaknesses, such as the poor collaboration by some public organizations and poor creativity of environmental health staff. These weaknesses are currently being amended by designing joint programmes to improve the environmental health with other developmental organizations and using new management styles such as total quality management. Another criticism of the project is that insufficient attention was paid to other aspects of healthy villages such as: safety evaluation in the living environment, training people for building appropriate homes with safety standards, creation of job opportunities, attention to other determinants of health such as disease risk factors and lifestyles (exercise, nutrition), continuous monitoring and evaluation systems. Nevertheless, the East Azerbaijan project had been a great success and has been used as a model for other provinces through national seminars

on Healthy Villages with the participation of provincial health centres in 1993. At the second EMRO Healthy Villages seminar in 1998 in Tabriz, the project was visited by conference participants.

Limited resources of the villages sometimes make it difficult to improve even the essential aspects of healthy life, so people must participate closely with the authorities in helping to upgrade life in rural settings. The Healthy Villages programme aims to improve environmental health and health conditions by raising public awareness. An informed public can influence policy by bringing about improvements in the health and environment and mobilizing community activities by providing an excellent opportunity for people and local authorities to work closer together.

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