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in

Sagardoy J.A. (ed.), Lamaddalena N. (ed.), Quagliariello R. (ed.), Chimonidou D. (ed.), Guelloubi R. (ed.), Pinca V. (ed.).
Mainstreaming gender dimensions in water management for food security and food safety

Bari : CIHEAM
Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 77

2007
pages 199-207

THE ITALIAN AGRICULTURE AND THE ROLE OF WOMEN

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INTRODUCTION

ITALICID (Italian National Committee for Irrigation and Drainage) is a partner of the GEWAMED Project concerned with promoting studies on irrigation management and water and land resources conservation in Italy. Its attention has recently been focused on trainings aiming at mainstreaming gender in water resources management. It has also supported five irrigation training courses for rural women organized by FAO in Asia and Africa.

The conservation and rational management of water resources are extremely essential in order to guarantee a balanced hydrological cycle and enable future generations to use this precious natural resource. Since social stability also depends on the availability of water resources, water is becoming a crucial problem for the whole humanity in this century.

Water management for food production and ecosystems is a complex process requiring a revaluation of water in all its aspects. Since competition in the water sector is increasing, most people recognize the urgent need for considerable changes in water management in order to satisfy water requirements for food production and ecosystems.

A network of several small and medium scale units, run by rural women, could be promoted as a key factor to achieve an eco approach in agriculture and an effective management of water resources and ecosystems. This process has to undertake small-scale and subsidiary actions involving rural women who are able to deal with issues strictly linked to their condition.

MAIN PHYSICAL AND DEMOGRAPHIC FEATURES OF ITALY

In Italy, as in most other countries, the steady increase of urbanization and standard of living put increasing pressure on natural resources which has to cope with the growing demand for water resources. In addition, the continuous increase in temperature has brought about serious effects on the hydrological cycle, particularly on volume water inflows and outflows, and has increased natural disasters.

Due to the sometimes irrational use of water resources and meteorological variability, it is extremely difficult to renew water resources, sometimes reaching an adverse and irreversible imbalance.

Fig. 1. Orography and main rivers of Italy

The Italian peninsula extends from latitude 47° to 35° N and from longitude 6° to 18° E. It is surrounded by the Tyrrhenian Sea in the West, the Adriatic Sea in the East and the Ionian Sea in the South. It is bounded on the north by the Alps, whereas the Apennine Mountains run the length of the whole peninsula. 80% of the Italian land surface consists of mountains and hills.

The total area of Italy is 301,300 Km^2 and its population is about 58 million inhabitants with an average density of 192 inhabitants/ Km^2.

Table 1. Land surface and population

Zones	Surface		Population (million)		Inh/km^2
	km^2	%		%	
North-West Italy	57,944	19.2	15,153	26.2	262
North-East Italy	67,976	20.6	10,681	18.5	172
Central Italy	19,920	19.4	25,834	19.3	191
Southern Italy	73,275	24.3	25,285	24.4	193
Insular Italy	49,793	16.5	6,725	11.6	135
Italy	301,334	100.0	57,844	100.0	192

Due to its orography, latitudinal extension and proximity to the sea there is a high climate variation in the different zones of the country.

The average annual precipitation volume in the whole country is 243 Km^3, but in recent years there has been a decrease of the water inflow; the annual amount of the effective precipitation is 143 Km^3 while the effective infiltration, which can be considered as part of the rain water potentially recharging the country's water resources, is 99 Km^3.

Table 2. Average precipitation in the main Italian regions

Zones	Precipitations	Effective precipitations	Effective infiltrations
	km^3/y	km^3/y	km^3/y
North Italy	111	74	52
Centre Italy	50	29	20
South Italy	55	28	18
Islands	27	12	9
Italy	243	143	99

The surface water bodies consist of several rivers and lakes. The Po, the most important and longest river of Italy, rises in the West side of the Alps and, crossing the vast Po valley, flows in the Adriatic Sea.

Its basin has a surface of about 70,000 Km^2, a population of 16 million inhabitants and the industrial activity accounts for 37% of the national production.

Fig. 2. The Po river

It has, as water inflow, the Alpine tributaries, fed by glaciers and regulated by large lakes, and the Apennine tributaries whose flux is closely related to the rain regime.

In case of precipitation concentrated on the Apennine Mountains, the Po River basin can be exposed to floods.

The other Italian rivers are shorter and their steep gradient induce discharge a lot of rainwater in short time thus generating floods and landslides processes with a negative influence on the small plains below.

Table 3. Main characteristics of the Italian rivers

River	Length	Basin	River	Length	Basin
	km	km^2 x 1000		km	km^2 x 1000
Po	652	75	Piave	220	4
Adige	410	12	Reno	211	5
Tevere	405	17	Mincio	194	3
Adda (Po)	313	8	Volturno	175	5
Oglio (Po)	280	7	Tagliamento	172	3
Tànaro (Po)	276	8	Ombrone	161	3
Ticino (Po)	248	7	Dora Baltea (Po)	160	4
Arno	241	8	Liri	158	5

Floods and landslides are frequently occurring over the whole country. Some statistical data, published by CNR, revealed a high risk of land degradation which was intensifying in the last years.

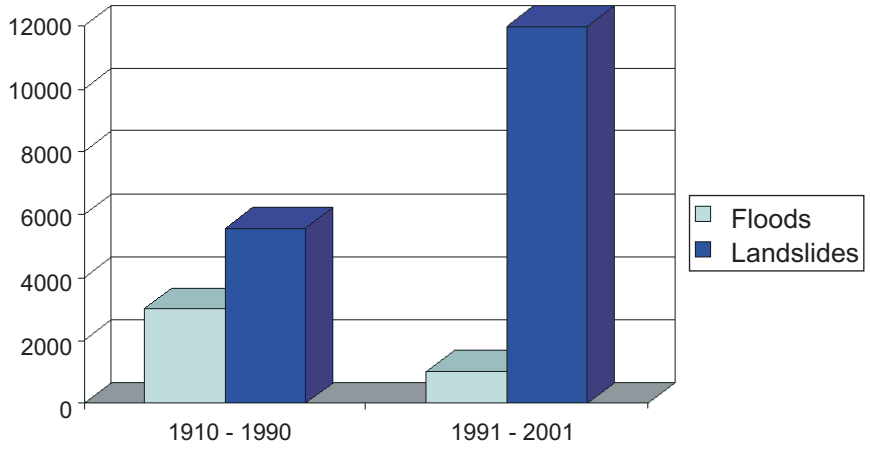

Fig. 3. Number of hydrogeological disasters for the periods 1910-1990 and 1991-2001

This critical situation urgently needs the implementation of a national policy for the civil protection.

In ancient times, the inhabitants of the peninsula had to fight against land degradation: they facilitated water discharge into the sea thus protecting the cultivated fields. Etruscan and Roman peoples carried out considerable hydraulic works for the land drainage. During the early Middle Ages these works were destroyed or deteriorated causing water logging and spreading the malaria disease.

From the beginning of the 8th century the monasteries undertook works to drain the vast marshy land placed all over the peninsula. Afterwards, there was an extensive development of the rural population and a large expansion of the cultivated lands. In front of such accelerated progress, the first Associations of rural people, wishing to collaborate in undertaking and maintaining the land reclamation schemes and claiming the implementation of bylaws on the use of communal water, appeared in the 11th century.

After that time, the Water Users Associations, already established, continued to grow and today the 198 Consortia, members of the National Association for land reclamation and irrigation, are self-governing public authorities concerned with land conservation, water use and safeguard of the structures necessary for land improvement.

AGRICULTURE AND IRRIGATION

Table 4 shows the land use in Italy. It is interesting to note that only 24% of the total land is cultivated.

Table 4. Land use in Italy

Land use	Area (km^2)	%
Built-up, bare and water areas	72,319	24.4
Cultivated land	73,402	24.0
Tree-crops	24,580	8.1
Meadows	34,144	11.3
Woodland	48,753	16.1
Other	16,836	5.6
Protected areas	31,740	10.5

In the year 2000, 2,593,093 farms were involved in agroforestry and livestock farming, 14% less than the figures recorded in 1990. The most substantial reduction took place in permanent meadows and fruit trees farming that represents the vegetation cover which is able to prevent the soil from being affected by the degradation process.

In general, the old land-use patterns are steadily and irreversibly changing to pave the way for urban expansion, industrial enterprises and holiday homes.

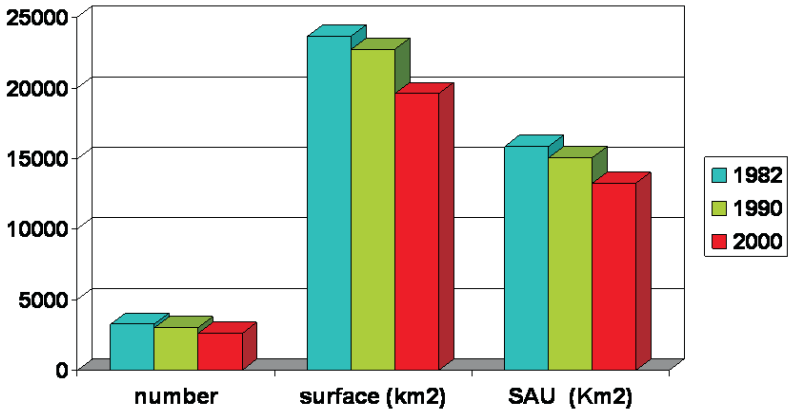

Fig. 4. Evolution of the number of farms, surface and SAU (1982-2000)

Farming has a modest impact on the national economy and it accounts for 2.6% of agricultural value added.

The employment rate in this sector reflects its weight on the national economy: 5.3% of all Italian workers are employed in agriculture and this figure is rapidly dwindling. In 1992, there was one worker in agriculture every 29 inhabitants, while in 2002 this ratio dropped to 1 out of 44. These figures point up the rate of land abandonment, especially in marginal hilly and mountain areas.

Irrigation is an essential agricultural practice in most parts of Italy. It helps stabilizing, increasing and improving crop production. Low rainfall during spring and summer coincides with the period of major crop growth and therefore with the greatest water demand, making irrigation indispensable for food production.

Irrigated production accounts for 83.7% of agricultural output in the country whereas the total irrigated surface is 2,470,000 ha.

In Italy, irrigation management is carried out by Consortia.[1] They conducted land reclamation on an area of 15,486,181 million ha. They are also distributing the irrigation water to 2,157,000 ha on the same area. Surface watercourses are the main source of irrigation water in the North of Italy. Moreover, the water from the canals that conveys water originated from land reclamation is widely used. The irrigated lands of Central Italy are supplied mainly by dam reservoirs although groundwater withdrawals are steadily increasing. In the Southern Regions farms mainly use water from groundwater bodies for their irrigation needs. In some southern regions even 80% of irrigation water is drawn from the aquifer causing a serious overexploitation.

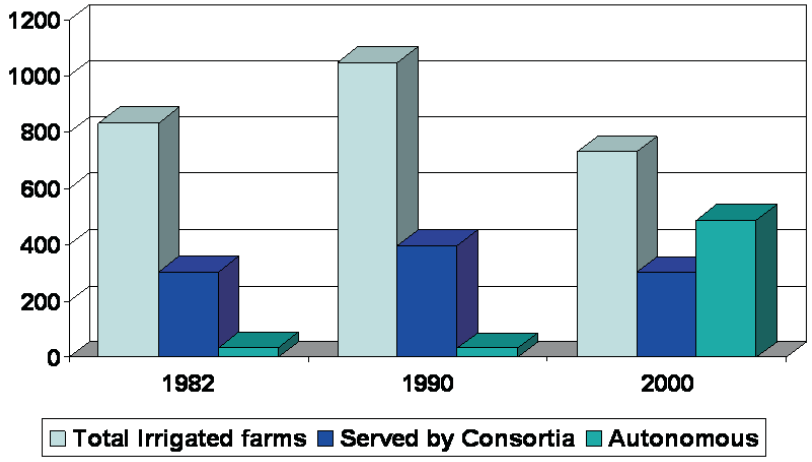

Fig. 5. Evolution of the total number of irrigated farms, served by consortia and autonomous (1992- 2000)

[1] Corsortia are a type of water users association.

Sprinkler irrigation is by far the most widespread irrigation technique in the country (41%); surface irrigation systems are used by 33% of farms. Micro irrigation, which is highly efficient, is rapidly and widely spreading (14.5%) especially in the Southern Regions. It is used to irrigate grape, olive and fruit trees.

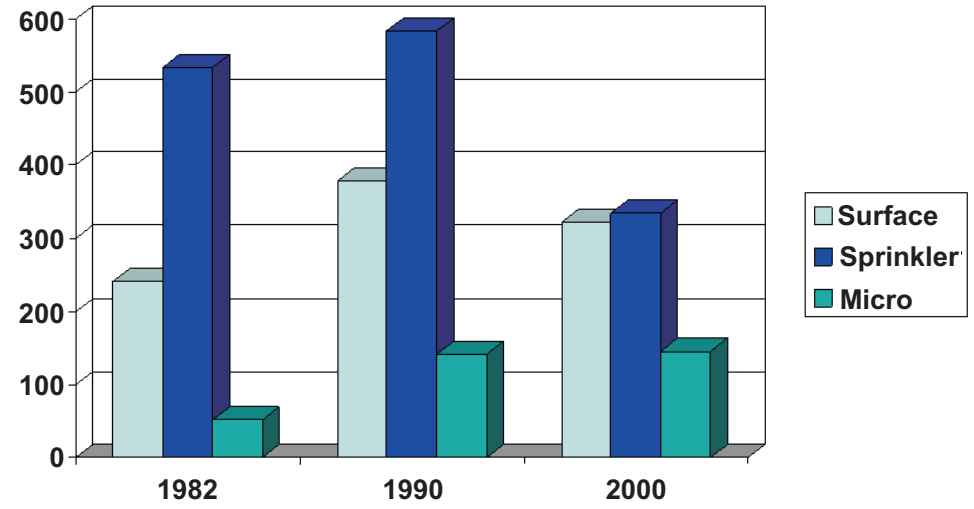

Fig. 6. Evolution of the irrigation methods (1982-2000)

Information on irrigated crops varies on annual basis but the following figures represent reasonable averages. Maize represents about 25% of the total irrigated crop areas of the country. Vines and fruit trees represent 20% of the irrigated crops grown in the North East and Southern zone. Vegetable crops, rice, industrial and forage crops account for 10% each of the remaining irrigated area.

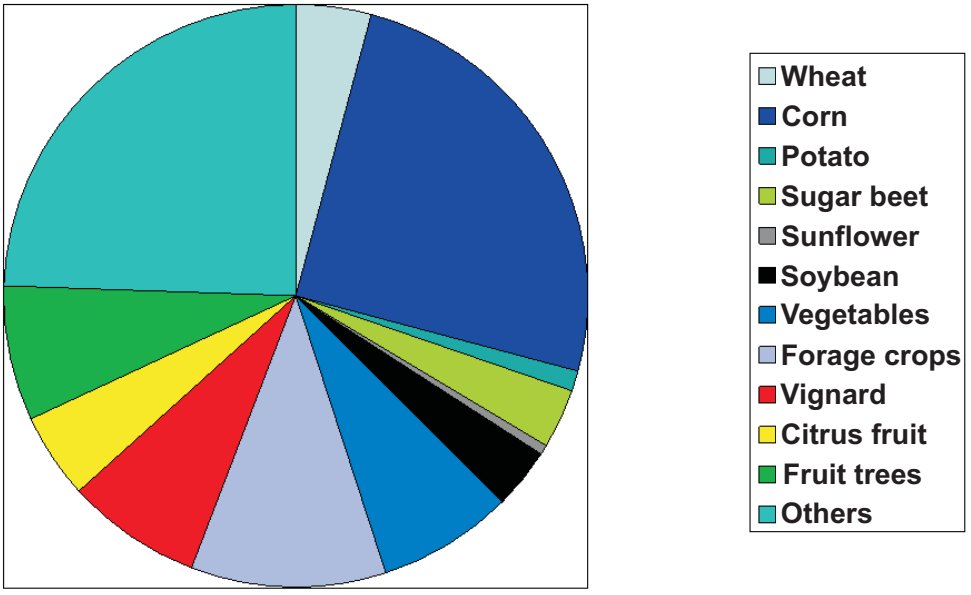

Fig. 7. Share of irrigated crops

WOMEN AND AGRICULTURE

In Italy, in the decade 1970-1980, the number of women employed in agriculture increased by 15% due to male migration to other sectors. Nevertheless, there was still no parity. Marriage in the agricultural sector means the effective involvement of women in agriculture without their official recognition as agricultural workers or farm managers.

The Italian laws 125/1991 and 215/1992 are supporting the principles of parity in the employment sphere and provide women workers with economic incentives, specifically for:

- new agricultural enterprises,
- innovative projects for improving farm management,
- technical and consultant services.

Unlike men, during the years 2001-2002 the number of female workers in the agricultural sector increased in the country registering a higher percentage in the Central-Southern Regions and a wide regional variation: from the lower figures revealed in the Northern Regions, such as Lombardia (1.5%) and Trentino (5.4 %), to the higher ones registered in the Southern Regions, such as Abruzzo (6.8%) and Calabria (19.1%). This slightly increasing feminization of the agricultural labour force may point out that women are abandoning the rural area at a slower rate than men.

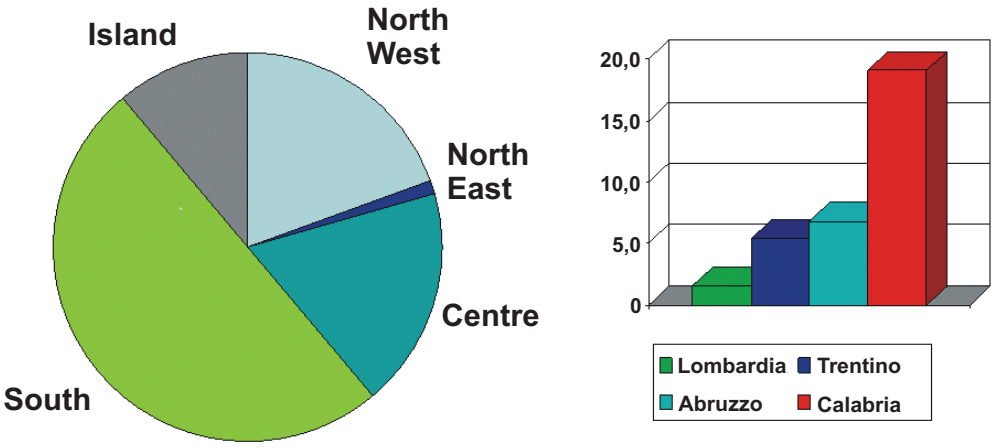

Fig. 8. Share of rural women in the main regions

Rural women are usually older than women occupied in the other sectors (44 against 38 years of age) and most of the times their level of education is lower than the national average.

The percentage of married rural women (80%) is higher than those employed in the other sectors.

Rural women work longer hours (36 hours/week) than the other female workers (34 hours/week) and 72% of them are working full time.

Rural families, with at least one female member occupied in agriculture, are usually made up of four or more members, including two or more children. They are 394,000 representing 1.8% of all Italian families. On the other hand, two-member families account for 52% of the national rate.

These data reveal that rural families can be considered as “traditional families”, mainly due to the role of women in revaluating the countryside.

According to the ISTAT data of 2003, women-run farms are 596,000 covering an area of 3,2 millions ha, and no great difference was recorded among the several zones of the country.

Table 5. Percentage of farms managed by women

Zone	Percentage
North West	30.4
North East	28.4
Centre	24.9
South	28.4
Islands	26.9

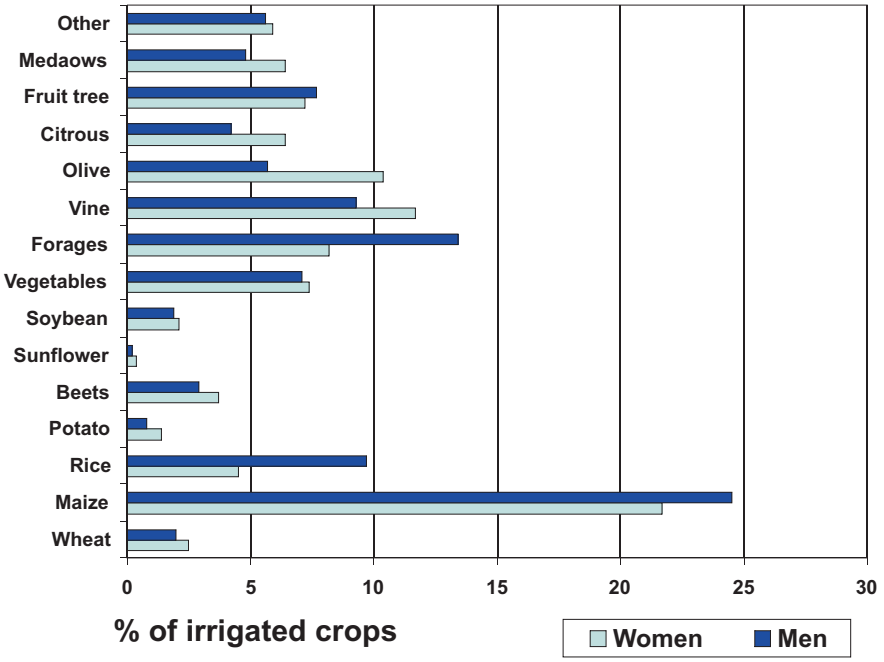

Fig. 9. Percentage of irrigated crops cultivated by women or men

The irrigated farms managed by rural women cover 13% of the total irrigated land surface of the country.

They use irrigation water originated mainly from surface watercourses and they prefer the micro-irrigation as irrigation technique (23.1 % against 16.1 % for men).

Moreover, they have selected fruit trees, olive, grape and citrus crops and meadows as irrigated crops, thus strengthening the land cover enabling it to better protect the soil from land degradation and exploit the soil moisture of the deeper layers. This technique enables crops to survive in arid areas.

The gender composition of the Water Users Associations is likely to be important and should reflect the situation of the productive labour. More meaningful are the figures of women taking part in the organizational structure of the Consortia boards (the Italian Water Users Associations): 10% of women are part of the Consortia boards, whereas 22% are in the board of the Regional Consortia Unions.

The increase of female rural enterprises in 1999-2000 is probably due to the economic incentives provided by EU and national laws. 665 projects were submitted in 1998-99 by rural women in order, to obtain some incentives for the transformation, marketing and improvement of agricultural products, especially those meant for young people, and 145 of them were approved. The majority of the submitted projects concerned the multifunctionality aspect of agriculture. However, only 39% of the projects have been completed, mainly because the funds were considered insufficient, or rather for the lack of an adequate expertise in terms of enterprise management. The Regions were appointed particularly to organize adequate training courses for the aspirant entrepreneurs, but it was not done enough on this matter.

The multiple functions of agro systems, such as food production, environmental protection, provision of services and rural development should be strengthened. On this viewpoint and to translate the commitments derived from the environmental convection into concrete action, an effective involvement of women-run farms represents an useful approach to the multifunctional agriculture.

Although both rural women and men play different and complementary roles in food production, women revealed a particular feeling towards environmental protection.

The integration of socio-economic factors with the driving forces directed to avoid land degradation and to save water resources carried out by female landowners in rural areas, is a key measure to fight against all those activities shattering ecosystems and natural resources.

CONCLUSIONS AND RECOMMENDATIONS

The main problems concerning Italian agriculture are the abandonment of cultivated land and the water shortage threat due to a higher water demand and a less volume inflow that diminish the availability of irrigation water.

This critical situation and the peculiar flooding and landslide vulnerability of the Italian land underline an urgent need to implement innovative policies in which rural women could play the main role.

Rural women stand out for their peculiar feeling towards environmental conservation, and family aptitude, and their great capacity to serve the “others” can become, if rightly rewarded, the key of the future rural development.

Actions are therefore needed to identify the appropriate measures to be taken to create the synergy necessary to establish the role rural women can play in changing some management aspects of the future agriculture in the country.

In a context where there is a high risk of land degradation and natural resources are diminishing, as in our country, it is imperative to identify the strategies and techniques to be implemented by rural people and particularly by women in order to counteract this hazard risk.

Policy makers must recognize the importance of involving rural women as partners in the innovative mechanism through which they can become the driving force of the rural economic development.

Land and water resources are the basis of all farming systems and their conservation is crucial to the improvement of food production and the provision of ecological services.

A lack of understanding and appreciation of women's efforts as well as a disregard for their priorities as resources users can lead to the failure of the development process.

Discussion on gender, environment and sustainable development has to be encouraged by incorporating a gender perspective in the policies and programmes aiming at mitigating floods, drought and landslides that adversely affect agroforestry systems and the rural and national economy.

Nature provides human beings with the resources for their well-being. Environmental protection is therefore an ethical obligation for the whole humanity.

The risk management requires appropriate financial resources in all the phases of the cycle from preparedness to response and recovery. It is widely accepted that resources spent on disaster prevention are eight times more effective than those spent on rescue and recovery.

The local government appears to be the most appropriate level for the action planning to curb the hazard risk and delegate rural women to carry out non-structural works, for which to provide corresponding incentives, and to organize appropriate training and adopt extension measures to reduce land vulnerability.