

## THE FRIULI EARTHQUAKE AS AN AGENT OF SOCIAL CHANGE IN A RURAL AREA

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On May 6, 1976, an earthquake of magnitude 6.4 on the Richter scale struck central Friuli, a region located in the hilly north-eastern part of Italy, near both the Austrian and Yugoslavian borders. On September 11, 1976, the earth shook again; two more shocks occurred followed four days later by one of 6.1 magnitude. Friuli has a long seismic history (Osservatorio Geofisico Sperimentale, 1976), but the violent force of these two earthquakes was, as far as is known, unprecedented. The epicenter of the first one was near Venzone, which is a small town at mid-point in the road system linking the Friuli plains and the Adriatic Coast with the central Danubian region. The epicenter of the second shock was a few kilometers north of Venzone.

On the basis of a preliminary analysis of field data, I will examine below some of the social and economic changes which seem to be the result of these disruptive events.

### ECONOMY AND SOCIETY

The devastated area covers some 1800 km<sup>2</sup>. The pre-quake population figure was 103,662 persons. Over one hundred villages were almost completely destroyed. Some 17,000 houses, a large number of schools, churches, town halls and factories were ruined. Many of these towns, such as Venzone and Gemona, had important art treasures and historical land-

marks (Valuzzi, 1977). In Udine, the biggest urban center of the region with almost 100,000 inhabitants, more than 50% of all dwelling units were damaged.

Prior to the 1960s, Friuli had a principally agricultural economy. Typically, farms were small, with holdings averaging from two to five acres, and nearly self-sufficient. In the upper Friuli plain, maize, cereals, potatoes, a variety of other vegetables and wine were produced. The wine was widely admired for its excellence. The market structure was poorly developed; most farmers sold their products directly to small merchants from neighbouring regions. Limited non-agrarian job opportunities, population growth, the tiny size of saleable plots of land and limited market facilities accounted for emigration, the tradition of which goes back to the seventeenth century. Population displacement accelerated at the turn of the century owing largely to land shortage. Large numbers of emigrants sought better job opportunities in other European countries and in Latin America, particularly Argentina.

Emigration continued throughout this century, and the resulting labor drain became a decisive factor in the decline of agriculture in this region. In 1951, employment in the agrarian sector was only 39.8% of the job market, but ten years later it dropped to 25.7%, to 13.5% in 1971, and in 1976 it was a mere 7%. Most of those now engaged in agriculture are elderly persons who are no longer very produc-

tive. Non-agricultural workers found their employment either abroad or in the industrial areas of the Padama Plain, or more recently, in the small industrial centers of central Friuli. Along with the decline of agriculture, dairy collectives, small rural banks and cottage silk-worm industries have also begun to disappear.

The region consists of small, scattered farms surrounding a number of urban centers. The latter include Udine, in the Central Friuli Plain, Pordenone, west of the Tagliamento River, and Tolmezzo. During the 1960s the rural character of Friuli was beginning to change. In 1964 the establishment of Friuli as a self-governing region permitted increased economic development of the area. Pordenone, lying on the border of the disaster area, became one of Italy's most important household manufacturing centers. Several smaller towns, typically not larger than 8,000 persons, established dozens of factories including iron, machinery, furniture and textile production. Prior to the quake, 18,000 persons residing in the disaster zone plus thousands of other "commuters" were employed in 300 of these small factories. Most Friuli workers also did a little farming.

## RECONSTRUCTION

Massive migration was predicted following the May earthquake, but it did not materialize. Rather than fleeing, stricken rural families wanted tents they could erect in their courtyards despite government warnings about the danger of landslides and difficulties of transporting supplies into the area. In June, when the regional administrative authority started to formulate reconstruction plans, town planners began to draw up blueprints for the reorganization of settlement patterns for the entire region. They proposed to concentrate the population in areas situated away from danger zones. Residents resolutely protested these schemes through their town councils and by organizing public demonstrations. The

Friuli-Venezia Giulia regional administrative authority at first did not want to be involved. But it eventually bowed for public pressure, giving each municipal administration the authority to make its own reconstruction plans.

Reconstruction began quickly. Thanks to outside aid, farmsteads were rebuilt, most damaged farm machinery was repaired or replaced and food supplies were maintained at or near pre-quake levels. In the meantime, many persons were living in tents supplied by government and donor nations. The administrative authority attempted to stimulate agricultural recovery. The Government thought that people would be disinclined from leaving the area by keeping agriculture healthy, even in its recent attenuated form. Industry also received substantial financial assistance. Thus, during the summer of 1976, most workers were able to return to the factories. By the end of August, the industrial area near Osoppo, situated close to the epicenter of the quake and thus sustaining considerable damage, was able to reopen all of its plants, restoring jobs to some 1,600 workers.

As recovery proceeded, Friulians began to display a preference for new settlement arrangements. The traditional rural model was that of dispersed terraced houses straddling both sides of the main roads. What became popular now was the model of small, single family home, a pattern which had already been spreading over rural areas in the last ten years. In the midst of these new developments the second terrible quake struck on September 15. Many buildings that were restored or were in the processes of being resurrected, collapsed.

Now, fully cognizant of the region's seismic dangers, the government launched preliminary geological and geo-seismic investigations. Authorities also instituted new building codes. Designs of all new buildings were to incorporate up-to-date seismic safety features. But there was no clear indication of how long this reconstruction would take. Thus, as winter

was approaching rapidly this mountainous region, it was essential that temporary shelters should be erected immediately.

Regional and central government jointly arranged for the relocation of some 33,000 victims to the seaside resorts of the Adriatic Coast. Most of these relocatees were women, children and elderly, while many technicians, farmers, laborers and managers were settled in temporary shelters in or near the damaged areas. Coastal centers were linked up with destroyed villages through a daily bus service. Students coming from Udine aided in grape picking and this assistance was instrumental in saving the vital grape harvest. With help from the Italian army, temporary house construction began quickly and continued throughout the winter.

By April, 1977, 20,800 temporary houses were constructed. Thirty-seven different house types were used. Many were elementary iron and plastic containers while others, the minority unfortunately, were homey little wooden cottages. Government also built shops, stables, schools, churches and workshops, all made from prefabricated materials. The temporary housing was not very popular with its users, for several reasons. Firstly, the big wooden furniture normally found in houses throughout this region did not fit in its small rooms. Secondly, wood burning stoves had been replaced by gas or electric ranges, making it difficult to prepare many traditional dishes, such as *polenta*, a maize substitute for bread. Thirdly, there were no facilities for poultry. Also, many houses were located far from the main roads and in places exposed to cold winds and snow drifts.

A number of persons subsequently have chosen to build their own houses. In April 1977, 70,000 persons resided in these "temporary" structures, but a year later the number had fallen to 50,083. The provision of some permanent housing supplied by foreign donors and the fact that some victims settled elsewhere accounted also for this lower figure.

One interesting aspect of victims' reactions to disaster housing is shown by the birth rates. In the months following the first quake, the birth rate fell from an average of 8.4 births per thousand to 5.9 in April, 1977. It then rose to 8.8 on October 1977, but in December of the same year, nine months after the population had been moved to temporary houses, it fell again to 6.4.

#### POST-EARTHQUAKE SOCIAL CHANGES: SOME TRENDS

The two major quakes together have had a demoralizing effect on Friuli villagers. People responded to the first shock by endeavoring to rebuild their houses and quickly resume their productive activities. But the second tremble created a visible demoralization. While in May it was difficult removing even the elderly and sick from their home areas, in September, thousands of persons fled the area in a few hours. This attitude of wariness has persisted even two years later.

Prior to the quake, relatives who had moved to other regions or countries would come to visit during summer holidays and on Christmas so as to keep alive the extended family ties. But space restrictions characterizing the new houses have considerably discouraged this pattern of visiting. Likewise, kinsmen working in regional urban centers now prefer to remain in the town rather than returning to their villages for the weekends. The elderly, who used to reside in large rural houses with their children and grandchildren, have now to some extent been segregated from close kin.

Out of 19,525 families occupying temporary housing in the spring of 1978, 4,281 (22% in rounded figures) were occupied by one person only, 5,241 (27%) by two people, and 2,363 (12%) by five or more persons. Rather than living alone, many of the elderly have opted to reside in homes for the aged or have taken advantage of a

home care program financed with funds from the regional administration. However, as much as these developments may be weakening the foundations of rural family life, they seem not to have produced an evident impact on village solidarity, probably because the inter-household composition of many settlements has not changed radically.

The splintering of households has also undermined family horticultural enterprise. Some cottage industries have also suffered as a result of housing redevelopment. Many craftsmen in central Friuli did their work at home. New housing made it very difficult to continue this practice. Regional government decided to construct special work sheds, but these tend to be built some distance from the craftsmen's homes, thus making it hard for them to practice horticulture on a part-time basis.

Some local customs which date back as far as pre-Roman times have also fallen into disuse after the quake. For instance, following a very ancient tradition, fires were lit on hilltops on the twelfth night before Christmas to bring good omens for the next year's crop. Before the quake, virtually all villages between Gemona and Cividale practiced this rite, but now it has nearly disappeared. The feasts of the patron saints that were held annually in every village have also been abandoned. If and how these trends reflect changing sentiments regarding formal religion remain to be studied. However, I am inclined to think that the earthquakes have modified the outer-trappings of religious life without altering more deep-seated feeling about religion.

The hierarchical structure of regional trade centers has also undergone some transformations. Among the cities of Central Friuli, Udine and Pordenone had the largest concentration of commerce, infrastructure, schools and provincial administrative offices. Secondary centers included San Daniele, Osoppo, Maiano, Gemona, and Tarcento, and under these were even smaller admini-

strative hubs. Commerce in some middle-sized cities badly damaged by the quake has come to a virtual standstill, and this paralysis has forced smaller centers to bypass the beleaguered cities completely and to establish dependencies in Udine and Perdenone. Such realignments are also affecting inter-village commerce in the context of the damage sustained to middle-sized cities.

Two years after the May earthquake, 70% of temporary housing is occupied and final reconstruction is underway. Government, through a special edict, has given assurance of providing \$ 2.87 billion for a five-year building program, to start in April 1977. The money is being channelled through regional government to local communities with the assistance of local bankers. Regional authorities, however, think that the reconstruction will take much longer than this, perhaps ten years or more. On the brighter side, growth in the building sector will generate jobs certain to lure many emigrants back to the region. But this influx will undoubtedly increase population in urban centers and possibly generate future urban housing problems.

Government, following a national policy for modernizing agriculture, is also attempting to concentrate farm holdings in larger, more productive commercial farm units. In Friuli, this policy may be inacted by withholding financial aid to part-time farmers and subsidizing reconstruction only for those farmers willing to commit themselves to full-time agriculture and stock breeding. So far, government has done little to implement its plans for agrarian reform. In fact, owing both to objections from the country's powerful trade unions and strong resistance among the farmers themselves, government's initial attempts in this direction have failed.

To date, government's inability to formulate and implement coherent and widely acceptable reconstruction programs and policies pose a serious threat to ultimate, successful recovery. Regional and central authorities

have left a great part of this initiative to local administrations. The risk here is that rather than regional economic integration, a patchwork of schemes for economic growth and urbanization will evolve, each differing according to specific political pressures and proclivities which arise in the particular municipality under consideration. Many areas in Friuli, for example, are torn between forces wanting to intensify urbanization and agrarian land consolidation and those attempting to conserve the traditional character of the countryside.

## CONCLUSION

The earthquakes struck Friuli at a time when country life was undergoing significant changes. The deterioration of agricultural activity and altered housing conditions following the quakes have reinforced modernization trends in the rural sector. Still, traditional settlement patterns are highly valued. Most of the affected population has repeatedly expressed

a desire for the restoration of damaged villages, regardless of their location in seismically vulnerable areas. With respect to housing, Geipel's survey (1977) shows that 86.7% of the 6,400 persons interviewed, preferred housing of the same type as occupied prior to the quake. However, ironically, when having to make the choice, individuals are opting for small urban-type houses. I think that even if villages are rebuilt at their original sites, they will stay virtually empty because most of the population will have moved to larger centers in the plain. Owing to the earthquakes, Central Friuli is now rapidly on its way to assume an urban, industrial character.

## REFERENCES

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