MOSQUES IN TURKEY:
A QUANTITATIVE ANALYSIS

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Abstract: *The aim of this paper is to look at the changes in the number of mosques in relation to changes in population in Turkey. In addition to a detailed analysis at provincial level, regions are subjected to comparison among themselves. Further, the paper examines the factors determining the number of mosques in rural, urban and total population separately. The paper indicates that the change in the number of mosques as compared to the change in population, shows not a linear increasing trend but a fluctuating one. During 1971-88 period the increase in population exceeded increase in the number of mosques while the reverse trend was true for 1981-88 period. For the period under scrutiny here(1986-88), the increase in the number of mosques fell behind the increase in population. Factors determining the number of mosques are found to be: population, percent of votes cast for right wing parties and the number of mosque associations for rural areas; demographic index, population and the number of mosque associations for urban areas, and education, demographic index, population and the number of mosque organizations for the total population.*

The aim of this study is fourfold: (a) to look at the number of mosques in Turkey between 1963 and 1988 in general and compare them with corresponding population figures; (b) to detect the trends and

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developments at provincial level in the number of mosques between 1986 and 1988, as well as in the ratio of mosques per 100,000 people and; (c) to look at interregional differences; and (d) to find out the factors which determine the number of mosques in the provinces.

Presently a situation is being witnessed in Turkey where claims about the number of mosques are being made on the basis of individual observations which do not rest on any research. Nevertheless proponents of these claims fiercely continue defending their views without any reliable data. They believe that the increase in the number of mosques in Turkey is well above the increase in population which is taken as one of the indications of Islamic revivalism. A salient aim of this study is to test this claim and provide reliable data on the number of mosques so that social scientists who are debating on issues such as secularism and Islamic revivalism[1] will have proper data to support their arguments. It is our belief that the issues mentioned above will be on the agenda of social scientists for 1990s and this study will contribute to their discussions by providing an objective database.

It is interesting to note that mosque building in Turkey constitutes one of those areas where there is no intervention whatsoever from the state. Mosques are built on the initiative and support of the people alone. In most cases, a mosque association is set up by those founding members who feel a need for a mosque in their neighbourhood. As is the case for all such associations, government approval is needed to set it up. In cases where the mosque is built without an association one finds a group of volunteers who assume the functions of a mosque association. The main task of a mosque association is to plan and actualize the whole process which includes steps such as finding a site, collecting donations and help from people, supervising expenditure and inspecting the developments in construction and finally completing the project.

In most cases the land is donated by people. This constitutes a very important part in the whole process. Given the price, and the financial gains to be made in alternative uses of the land, which is very high, donation of the land becomes a commendable sacrifice on the part of the donor. Since the land is not purchased, the chance of selecting a suitable site is also reduced. Hence the mosques are sometimes built on locations which are not very appropriate for the purpose.

Finance for construction and other expenses are borne largely by the people living in that locale. The voluntary basis of financial participation explains why the construction of some mosques takes longer than anticipated. Poor and rich alike contribute to the construction of the mosques. In cases where local contributions are not enough for the

expenses, founding volunteers resort to help from other neighbourhoods. Donations are sought for a mosque in far away locations especially after Friday prayers. Receipts are issued for donations, but those who contribute are not really keen on obtaining a receipt for their donations and people never question the use of their contributions. Given the large sums of money involved in such constructions this indicates how much confidence is placed in projects which are not controlled by any official authority. Moreover, the completely volunteer character of the whole process becomes a perfect counter-evidence for those who claim that developing countries lack volunteer organizations.

Spontaneity and the volunteer character of mosque building activities also indicates the importance attributed by the people to the places where they pray. In a way it shows the degree of adherence to religion. In Islam, a mosque is believed to be the house of Allah. Contributing to a mosque building is taken as a service to Islam and contribution of any kind would be considered as a unique opportunity for the cause of Islam. This is the assumption which makes it important to study the number of mosques in a country where ninety-nine percent of the population is Muslim. If the number of mosques is keeping pace with the increases in population, this indicates the continuation of adherence to, and importance placed on, religion in Turkey.

DATA

The data set is composed of the number of mosques for the 1986-1988 period in rural (villages and subdistricts) and urban (cities and towns) areas of each province in Turkey. Although the data is limited in terms of rural/urban dimension and in terms of the time period, it will serve the purpose well if the results are interpreted carefully regarding the period they cover.

Apart from the number of mosques, a measure named Mosque Frequency Ratio (MFR) was calculated for each province. This was done by dividing the number of mosques by the population of the province and multiplying it by 100,000. Thus Mosque Frequency Ratio expresses the number of mosques per 100,000 persons:

$MFR = (mosques_i/population_i) \times 100,000 \quad i=1,2,\ldots,67$

The constant of 100,000 has been chosen arbitrarily to make the small numbers easily readable. For populations of the interim years 1986, 1987 and 1988, the interpolation technique was used, with 1985 census figures as the base, and annual population increase rate of previous census years

were used to calculate the population of rural and urban areas separately.

A search for the data including possible determining factors of the number of mosques at province level for either 1986-1988 period, or 1980's was unsuccessful. So we resorted to the data of 1970's which were available at the province level in a publication of State Planning Organization.[2] The following variables were chosen as factors which can potentially explain the number of mosques in each province:

SEC= Socio-economic Development Index

IND= Industrialization Index

AGR= Agricultural Development Index

SOC= Social and Cultural Development Index

EDUC= Education Index

DEM= Demographic Development Index

These are composite indices, each of which includes relevant sub-indices. Indices are created by using the taxonomy technique which is well explained.[3] In addition to the variables which will reflect the structural characteristics of the provinces, percentages of the votes of the right-wing parties in 1983 and 1987 general elections are added to the data set. Moreover, as a measure of willingness and the will of the people, the number of mosque associations is included in the data. Considering the possible relationship of the quantity of mosques with the existence of religious schools in each province, a ratio which is called Imam Hatip Schooling Ratio is borrowed from Aksit's study[4]. This ratio expresses the number of students in Imam Hatip Schools per 1,000 population for each province.

ANALYSIS

Number of Mosques

In order to obtain global trends for various residential units in terms of the number of mosques since the 1970's, one has to look at Table 1 and compare the number of mosques given for selected years. The first three columns give the mosques in urban areas for cities, towns and cities and towns combined. The fourth column relates to rural areas which include villages and subdistricts.

In city centres, mosques have increased in number until 1981 after

which this trend is reversed. Increases observed after 1981 were not as high as the previous years. Due to some administrative changes which resulted in transferring some villages to town centres, the number of mosques even seem to decline, which is particularly true for the period between 1987 and 1988. In towns there was a declining trend in the number of mosques until 1985 after which it started showing an increasing trend. Combined with the effects of the villages transferred, the number of mosques seems to have doubled since 1985.

Because of the different rates of development in cities and towns, the number of mosques in rural areas as a whole seems to be fluctuating, which does not allow to detect any discernible pattern. However, one observes a declining trend since 1985. The same interpretation is true for the country as a whole; it seems that there is a declining trend in the rate of increase of mosques, which has stabilized around 2% after 1986.

As it is clear from Table 1, the most noticeable increases occurred in towns.[5] When taken as a whole in the period between 1971-1980, the number of mosques increased by 24 percent in the cities, by 135 percent in towns (here one should keep in mind the effect of transferred villages from city centres), by 92 percent in urban areas and by 38 percent in rural areas.

When considered with the developments in population, one would see that in urban areas the population increased by 111 percent, whereas the mosques increased by 92 percent. On the other hand, in rural areas population increase was 10 percent, while the number of mosques increased by 38 percent. For Turkey as a whole, the population increase was 50 percent and increase in the number mosques was 47 percent.

The interesting point for the Islamic revivalism discussion is the fact that for 1981-1988 period, population increase was 49 percent in urban areas while the increase in the number of mosques was 33 percent. In rural areas population decreased by 4 percent while there was a 32 percent increase in the number of mosques. For the country as a whole, population increased by 20 percent, and mosques by 32 percent.

On the basis of these observations it is possible to claim that for the period between 1971 and 1988, different areas have different developments with respect to the number of mosques. Although mosques increased in number in all residential centres, the most noticeable increases took place in town centres followed by villages and subdistricts and city centres. On the basis of similarity between city centres and rural areas which can be considered together with respect to the quantity and developments in the number of mosques one may assert the existence of two main lines of development in terms of mosques in Turkey.

Table 1. Distribution of mosques by years and changes in population

Years	Cities	Towns	Cities + Town	Subdistricts*	Total
1963	--	--	--	--	35,657
					(20)[#]
1971	2,791	4,443	7,234	35,510	42,744
	(4)	(38)	(25)	(2)	(6)
1973	2,903	6,111	9,014	36,138	45,152
	(26)	(12)	(16)	(3)	(6)
1981	3,644	6,835	10,479	37,166	47,645
	(10)	(7)	(8)	(17)	(15)
1984	4,015	7,304	11,319	43,348	54,667
	(6)	(3)	(5)	(4)	(4)
1985	4,245	7,525	11,770	45,290	57,060
	--	--	(6)	(5)	(5)
1986	--	--	12,468	47,685	60,153
	(5)	(12)	(4)	(2)	(2)
1987	4,474	8,447	12,921	48,611	61,532
	(-.23)	(24)	(8)	(1)	(2)
1988	3,465	10,442	13,907	49,040	62,947
1971-88	(24)	(135)	(92)	(38)	(47)
1981-88	(-4.9)	(53)	(33)	(32)	(32)

POPULATION (in millions)

Years			Cities + Town	Subdistricts*	Total
1971[@]			14.34	22.19	36.53
1981[@]			20.24	25.42	45.67
1988[@]			30.24	24.50	54.74
1970-88			(111)	(10)	(50)
1981-88			(49)	(- 4)	(20)

* Includes villages
[#] Numbers in parenthesis are percent changes between the two periods.
[@]Calculated by interpolation on the basis of the populations of 1970, 1980 and 1985. Due to the sizeable differences observed   between linear and exponential estimations, the ones which are closest to the estimates of State Planning Organizations are used here.

After establishing the general trend for 1971-1988 period it is time to focus on 1986-1988 period closely. Table 2 provides necessary statistics for interpretation. The total number of mosques in Turkey was 60,153 in 1986, in 1987 it increased at the rate of 2.3 percent each year. In the same period increase in population was 2.6 percent. Thus increases in mosques numbers were behind the population increase in 1986-1988 period. Put differently, when the population growth is taken into account the number of mosques actually decreased by 0.03 percent.

Table 2. Mosques in urban and rural areas, and Mosque Frequency Ratios (MFR) between 1986 and 1988

	1986	1987	% Change	1988	% Change
Mosques					
City/town	12468	12921	3.63	13907	7.63
Village	47685	48611	1.94	49040	0.88
Total	60153	61532	2.29	62947	2.30
Population (in millions)					
City/town	27.94	29.067	4.02	30.24	4.03
Village	24.03	24.26	0.97	24.50	0.99
Total	51.97	53.33	2.61	54.74	2.64
Mosque Freq. Ratio					
City/town	58.9	58.4	- 0.83	60.80	4.11
Village	205.2	207.60	1.17	207.80	0.10
Total	144.4	144.76	0.21	144.90	0.14

In cities and towns, the number of mosques increased by 3.63 percent between 1986-1987 and this rate ore than doubled between 1987-1988 period. As against that, in villages this increase was 1.94 percent between 1986-1987 and decreased to 0.88 percent during 1987-1988 period.

Mosque Frequency Ratios which are given in the last panel of Table 2 agree with the trend observed for the number of mosques. In the first part of the period, MFR decreased by .83 percent, whereas an increase of 4.11 percent was registered between 1987-88 period. On the other hand, there was an increase of 1.17 percent in villages during the first

part of this period and a decrease of .10 percent in the second part.

Mean mosque statistics are also important not only to detect the general trends in the number of mosques but also to make comparisons. Table 3 provides the means, the standard deviations and the medians for each year for rural, urban and total population.

The first point noticeable in the table is the high standard deviation values. These high standard deviations indicate a non-homogeneous distribution and the existence of outliers as well. Since the outliers affect the mean values considerably, the median values which are not affected by the outliers are included in the table.

Table 3. Average number of mosques by residence for 1986-1988

	1986			1987			1988		
	Urban	Rural	Tot	Urban	Rural	Tot	Urban	Rural	Tot
Mean	186	712	898	193	726	919	208	732	940
Std.dev.	225	369	487	234	379	503	245	390	520
Median	148	658	802	152	663	815	168	672	830

When the table is inspected, one sees the median for city and town centres is 148 which increased to 168 in 1988. When the average of 1986 is taken as 100, the average increase in urban places is 113.5, that is, there is 13.5 percent increase on the average from 1986 to 1988. In rural areas, rather modest increases are observed. Beginning and ending averages for villages are 658 and 672 respectively. If the figure for 1986 is accepted as 100, the change for 1988 is 102 which indicates 2 percent increase between 1986 and 1988. For total population there was a smooth increase starting with 802 mosques in 1986 and ending with 830 in 1988. In other words there was a 3 percent increase on the average in the number of mosques between 1986 and 1988.

As is clear from the above explanations, the highest increase in the average mosque numbers is observed in city and town (urban) centres while the increase in the villages remained very modest. The high standard deviations shows that there is no identifiable pattern for the distribution of mosques in rural and urban places. So it is impossible to talk about any kind of pattern or order for the distribution of mosques in

Turkey.

The number of mosques in each province for each residential unit is given for the years 1986, 1987 and 1988 in Appendix 1[6]. What is more important than the number of the mosques in rural and urban places of each province is the change that occurred between 1986 and 1988. Thus it will be possible to see the provinces in which the number of mosques has increased or decreased. Appendix 2 summarizes these changes for urban, rural and total population for each province.

Mosques Frequency Ratios

Mosque Frequency Ratios are are given in table 2, and in greater detail in Appendix 3. For 1986 the MFR varies between 22.9 and 143.7 for urban centres, the average being 58.9. For rural areas the MFR varies between 80.1 and 490.2, the average being 205.3, which is nearly four times that of the urban areas. This alone shows the important place that villages occupy in terms of the number of mosques in Turkey. Two provinces, the villages of which have MFR under 100, are Hatay and Tunceli, and those with MFRs above 300 are Artvin, Bilecik, Bolu, Çankiri, Kastamonu and Sinop. In terms of the overall MFR of the provinces, Istanbul (28.3) is the lowest, and Bolu (303.6) and Kastomonu (392.4) are the highest.

In 1987, MFR for urban areas ranges between 23.5 and 141.8 and the average is 58.4. The provinces which have MFR less than 25 are Adana and Istanbul, whereas those with MFR more than 100 are Kastamonu, Konya, Nigde and Rize. For villages the situation is the same as in 1986. The highest and the lowest MFRs are 79.5 and 509.8 and the average MFR is 207.8 . Those provinces which have MFR less than 100 in their villages are Hatay and Tunceli and those with MFR more than 300 are Artvin, Bilecik, Bolu, Cankiri, Kastamonu and Sinop. As for total population, MFR varies between 28.2 and 401.7 . As in 1968, the lowest MFR is observed in Istanbul and the highest in Bolu and Kastomonu.

The situation in 1988 is similar to the previous years in general. For urban places, the lowest, the highest and the average MFR are 23.5, 156.5, 60.9. Those provinces which have MFR less than 25 are Adana and Gaziantep, and those with MFR more than 100 are Burdur, Kastamonu, Konya and Rize. In the villages the MFRs ranges between 78.9 and 537.8 and the average is 207.9. Hatay and Tunceli again have MFRs less than 100. Artvin, Bilecik, Bolu, Cankiri, Kastamonu and Sinop have MFRs which are more than 300. With respect to total population, there is no province which has MFR less than 25 but

Istanbul has the lowest with 28 mosques per 100,000 people. This is no surprise given the fact that Istanbul is one of the fastest growing cities in the world.

In order to describe trends in Mosque Frequency Ratios (MFR) one has to compare 1986 and 1988 figures which are given in Table 4. Among the provinces which exhibited increase in MFR during the period are Artvin, Cankiri, Kastamonu and Sinop which already had high MFR, especially in villages, during all the three years. On the other hand, although their MFR is relatively low in each year, Giresun, Kars, Samsun and Zonguldak seem to have increased their MFR considerably during this period. Nevertheless four provinces, Bilecik, Hakkari, Van and Agri experienced a drop of five points in the MFRs. Especially Agri, among them, is noticeable with its low MFR. Altogether, 31 provinces in Turkey during the period experienced increase and 36 provinces registered decrease in their MFRs.

Analysis of changes in MFRs in rural and urban areas are given in table 4, and in greater detail in Appendix 4. In 43 provinces urban areas have showed an increase in MFR and in 24, a decrease. In rural areas, 39 provinces showed an increase in MFR, while in 28 there was a decrease. Extent of the changes observed in villages indicates that a considerable part of the variations that exist in MFR can be explained by the developments in the villages. This is especially valid for provinces which exhibited a greater increase in rural areas than in urban areas, such as Cankiri, Sinop, Artvin, Giresun and Trabzon. Meanwhile some provinces showed increase in the MFR in their urban centres but deceases in their rural areas. They include Van, Sakarya, Denizli, Mus and Afyon.

Interregional Differences

Given the fact that regions vary considerably in Turkey with respect to economic, social, and cultural development it will be natural to assume that they also differ in term of the number of mosques and Mosque Frequency Ratios. In order to test this assumption Turkey is divided into five regions, the provincial composition of which is given in Appendix 5. Table 5 provides averages for mosques and MFRs for each region.

Panel A of Table 5 which gives the means for mosques indicates the existence of a constant ranking among regions in each year of the period under study. Central Anatolia is the region with the highest number of mosques followed by Eagean-Marmara, Mediterranean, Black Sea and East-Southeastern region. For rural population there is also a

Table 4. Changes in MFR at province level

With increasing MFR   *With decreasing MFR*

	Provinces	Change	Provinces	Change
1	Kastamonu	29.33	Bilecik	-8.07
2	Zonguldak	14.97	Hakkari	-6.57
3	Cankiri	10.08	Van	-6.55
4	Sinop	9.51	Agri	-5.00
5	Artvin	8.80	Siirt	-4.69
6	Samsun	7.07	Denizli	-4.24
7	Kars	5.40	Kirsehir	-3.97
8	Giresun	4.99	Konya	-3.77
9	Trabzon	3.97	Bursa	-3.72
10	Ordu	3.19	Sakarya	-3.58
11	Tunceli	2.83	Antalya	-3.39
12	Çorum	2.82	Tekirdag	-3.23
13	Bingol	2.58	S.urfa	-3.18
14	Tokat	2.57	Mus	-3.14
15	Sivas	2.56	Bitlis	-3.12
16	Icel	1.69	Eskisehir	-2.66
17	Bolu	1.64	G.antep	-2.33
18	Kutahya	1.44	Afyon	-2.12
19	Mardin	1.26	Izmir	-1.99
20	Kocaeli	1.17	Balikesir	-1.95
21	Malatya	1.13	Adiyaman	-1.93
22	Erzurum	0.83	Diyarbakir	-1.90
23	Nevsehir	0.65	Edirne	-1.83
24	Hatay	0.62	Erzincan	-1.78
25	Manisa	0.60	Canakkale	-1.54
26	Isparta	0.45	Gumushane	-1.53
27	Kayseri	0.42	Aydin	-1.48
28	Mugla	0.38	Kirklareli	-1.03
29	Usak	0.34	Adana	-0.79
30	K.maras	0.16	Burdur	-0.61
31	Rize	0.03	Elazig	-0.43
32		--	Yozgat	-0.31
33		--	Istanbül	-0.28
34		--	Amasya	-0.14
35		--	Ankara	-0.13
36		--	Nigde	-0.12

constant but a different ranking for regions. Here regions are ordered as Black Sea, Central Anatolia, Mediterranean, Eagean-Marmara and East-Southeastern regions. Taken in their total population (rural+urban), Black Sea seems the first and Central Anatolia the second region which is followed by Eagean-Marmara, Mediterranean and East-Southeastern regions.

Table 5. Averages for mosques and MFRs in various regions

Regions	1986			1987			1988		
	Urb	Rur	Tot	Urb	Rur	Tot	Urb	Rur	Tot
A. Number of Mosques									
Mediterra.	172	672	843	180	686	867	198	689	887
Black Sea	124	1039	1163	128	1065	1192	143	1088	1231
Aegean/ Marmara	259	603	862	267	611	878	285	611	896
Central	284	726	1010	296	738	1034	311	737	1049
East/ South East	107	563	670	110	574	684	119	580	699
B. Mosque Frequency Ratio									
Mediterra.	53	170	113	53	172	113	56	169	112
Black Sea	72	285	219	72	291	222	76	297	226
Aegean/ Marmara	45	191	117	45	192	116	46	190	115
Central	73	195	137	73	198	138	74	198	138
East/ South East	53	185	134	52	186	133	54	185	133

Panel B of Table 5 gives the Mosque Frequency Ratios (MFR) for regions. For the urban population, regions are ordered by MFR as Central, Black Sea, Mediterranean, East-Southeastern and Eagean-Marmara in two consecutive years, 1986 and 1987. In 1988 the

first and second regions changed places. For rural areas the regions have
a different order than that for urban area. Here Black Sea is the first,
followed   by   Central,   Eagean-Marmara,   East-Southeastern   and
Mediterranean regions.

In order to highlight the changes between 1986 and 1988, it will be
useful to look at differences in the number of mosques among regions.
Table 6 provides statistics to do just that. The table indicates that Black
Sea is the region in which the highest number of mosques (68) was built.
The Mediterranean region is the second with 44 mosques. For the urban
population Central (27), Eagean-Marmara (26), and Mediterranean (26)
regions have more mosques built than Black Sea and East-Southeastern
regions. For rural populations just the opposite is true. Black Sea and
East-Southeastern regions seem village-oriented and other regions urban-
oriented with respect to average mosque increases. One of the interesting
points here is that the Mediterranean region which was fourth according
to the number of mosques, moved up the second place in terms of
increase in the number of mosques between 1986 and 1988.

**Table 6. Changes in the number of mosques between
1986-1988 in various regions**

Regions	Urban	Rural	Total
Mediterranean	26	17	44
Black Sea	19	49	68
Aegean-Marmara	26	8	34
Central Anatolia	27	11	39
East-Southeastern	12	27	29

On the basis of the total population of provinces, a constant order
exists among the regions throughout the three-year period. Black Sea and
Central remain in the first and second place in both the rankings.
However, East-Southeastern which was the last with respect to the
quantity of mosques moved up to the third place with respect to MFR.
Nevertheless, EageanMarmara and Mediterranean regions have
experienced decrease of one step in the ranking by MFR. These changes
are, to a great extent, result of population movements within and

especially migration to these regions.

When the differences are calculated for average MFRs for regions it is seen that Black Sea and Mediterranean regions have increases of four and three points respectively when all other regions have only one point increase. For rural population, increases in Black Sea is seven points which is considerably higher than that of Central the Mediterranean region. East-Southeastern region experienced no change and there is a one point decrease for Aegean-Marmara region. When looked at the total population, Black Sea (7) and Central (1) showed increases while the rest experienced decreases in terms of average MFR.

It has been shown that regions differ both in the number of mosques they have and Mosque Frequency Ratios which give the number of mosques per 100,000 people. Now the question is: Are these differences statistically significant? To answer this question one way analysis of variance was employed and the results are presented in Table 7. The results reveal some interesting points. Inspection of part A shows that on the basis of total and urban population of all years under study, regions do not differ in term of the number of mosques they have. In other words, with respect to distribution of mosques in city and town centres and the total population of the provinces, regions are the same and whatever differences observed above are due to chance factor and are not due to any systematic differences existing among regions. Regions, when taken on the basis of the rural population of the provinces, show statistically significant differences. This conclusion indicates that mosques are distributed more or less similarly in the total and urban population of the regions but differently in their rural population.

The same analysis is performed for Mosque Frequency Ratios, the results of which are given in Part B of Table 7. As the probability level of F indicates all of the differences with respect to MFRs in all years are significant. In other words with respect to the number of mosques per 100,000 people, regions differ on the basis of the total, urban and rural population. Combined with the conclusions of Part A it becomes clear that what makes these differences among regions is not only the distribution of mosques (which itself is not different among regions in total and urban population) but also population movements.

The next question to be asked is: "What are the factors which affect the number of mosques in the provinces?" Regression analysis is employed to answer the question. Dependent variables used in this analysis are those that tap the number of mosques in different residential units for the years under study here. The procedure followed to name the variables is the same as given in Table 7. The independent variables, as explained at

Table 7. Results of analysis of variance

A. *Number of mosques*			B. *Mosque Frequency Ratio*		
Variable[1]	F	P	Variable[1]	F	P
N86U	1.85	.1299	R86U	4.69	.0023
N86R	4.30	.0039	R86R	6.63	.0002
N86T	2.27	.0711	R86T	9.43	.0001
N87U	1.86	.1288	R87U	4.99	.0015
N87R	4.37	.0035	R87R	7.00	.0001
N87T	2.28	.0708	R87T	9.84	.0001
N88U	1.78	.1431	R88U	4.59	.0026
N88R	4.51	.0029	R88R	7.41	.0001
N88T	2.29	.0696	R88T	10.13	.0001

[1] The first character in the variable name stands for number of mosques (N) or MFR(R), the second and third characters indicate the year which refers to what the first character denotes; and the last charater indicates whether this belongs to urban (U), rural (R) and total (T) population.

the outset, are socio-economic, industrial, agricultural, socio-cultural, educational and demographic development indexes of provinces along with percent of the votes cast for the right wing parties in 1983 general election, Imam Hatip [*Khatīb*] Schooling Rate and number of mosque associations. Table 8 gives the correlation matrix of dependent variable with the independent variables.

Correlation coefficients of composite index variables with the dependent variables are all negative which is as expected. The negative correlation coefficient means a decrease in the number of mosques if, for example, socio-economic index gets higher. In the same way a negative correlation implies that if the socio-cultural development level of a province gets higher, the number of mosques will decrease. Another point about correlation coefficient is that, in general, coefficients for urban places (city and town centres) are higher, for rural places (villages) relatively low and for total populations in between the two. For the years

1986 and 1987, the number of mosques in city and town centres correlates, in order of strength, with socio-cultural index followed by demographic, educational and socio-economic index. Percent of votes cast for the right-wing parties have in general low correlations with the number of mosques (rural areas $r=.20$, urban areas $r=.05$, total population $r=.17$). Imam Hatip Schooling Rate have low correlations with the dependent variables (under .10). All dependent variables have high correlation coefficients with the number of mosque associations. Population variables have high correlations with all the depen dent variables. Correlation coefficients tapping the number of mosques in urban areas with urban population is higher than the corresponding coefficients for rural population.

Table 8. Correlation matrix

	N86U	N86R	N86T	N87U	N87R	N87T	N88U	N88R	N88T
SEC	-.79	-.16	-.49	-.79	-.15	-.49	-.49	-.49	-.49
IND	-.32	-.19	-.29	-.32	-.20	-.30	-.33	-.19	-.30
AGR	-.31	-.16	-.27	-.31	-.16	-.27	-.31	-.14	-.25
SOC	-.84	-.12	-.48	-.84	-.12	-.48	-.85	-.11	-.48
EDUC	-.54	-.06	-.30	-.55	-.06	-.30	-.55	-.04	-.29
DEM	-.59	-.03	-.30	-.60	-.03	-.30	-.60	-.03	-.30
RWV83	.04	.20	.17	.04	.19	.16	.05	.18	.16
IHSR	.00	.09	.07	.00	.09	.06	.00	.08	.06
MASSOC	.74	.58	.78	.74	.58	.78	.75	.56	.77
POP86U	.90	--	--	--	--	--	--	--	--
POP86R	--	.78	--	--	--	--	--	--	--
POP87U	--	--	--	.90	--	--	--	--	--
POP87R	--	--	--	--	.77	--	--	--	--
POP88U	--	--	--	--	--	--	.90	--	--
POP88R	--	--	--	--	--	--	--	.76	--

Inspection of the results of regression analysis, given in Table 9 (due to the similarity of the regression results only the ones belonging to 1988 are presented), reveals that variables such as socio-economic and socio-cultural development index which was indicated as potentially explanatory variables in the beginning are not included in the regression

analysis. These two indexes and others such as urbanization, rate of population increase of province, rate of urban and rural population increase, were tried and excluded from the analysis due to the high correlation they had with other independent variables which cause serious multicollinearity problem.

Table 9. Results of the regression analysis

	N88U		N88R		N88T	
	Urban		Rural		Total	
	Metric	Standard	Metric	Standard	Metric	Standard
AGR	---	---	---	---	---	---
EDUC	---	---	---	---	-1265	-.31
DEM	---	---	-1590	-.30	-1999	-.28
POP	.0002	.71	.002	.67	.0003	.46
RWV83	2.3	.08	---	---	---	---
IHSR	---	---	---	---	---	---
MASSOC	.5	.34	.6	.26	2.3	.78
CONSTANT		-134		288		902
R^2		.84		.66		.70

* Only the significant regression coefficients are given in the table.

The first thing to note in the table is the exceptionally high R^2 value for urban centres which means that independent variables explain a great deal of the variation in the number of mosques in urban areas. The second point to note is that two variables, population and number of mosque associations, are common in all three equations. Regression coefficients of those variables are not given in the table since they are not significant, that is, they exert no influence on the number of mosques in the provinces.

Metric regression coefficients for urban equation indicate that one unit increase in urban population will increase the number of mosques by .0002 units, that is, per 10,000 increase in population mean, two more mosques. Similarly one percent increase in the votes cast for the

right-wing parties will increase the number of the mosques by 2.3 unit. One unit increase in mosque associations will add .5 mosques, that is, two mosque associations means one more mosque. With these three variables, 84 percent of the variation in the number of mosques in the urban centres can be explained. Moreover, standardized regression coefficients indicate that the most important variable for determining mosques in the urban centres is population, followed by number of mosque associations and percent of votes cast for the right-wing parties.

In the equation for rural areas, the composition of variables and values of the regression coefficients are different. Percent of votes cast for the right-wing parties do not have any effect here. Instead, demographic development index appears to be affecting the number of mosques in rural areas. Interestingly enough, there are two variables here that relate to population. This may give the impression that they measure the same dimensions in different populations. Actually the correlation coefficient of .31 between the two variables indicates that such impression can not be true. While the variable Population taps the sheer number of people, Demographic Development Index measures the quality of that population.

If we interpret the metric regression coefficients we see that if Population increases by 1,000, the number of mosques increase by two. Regression coefficient for Demographic Development Index has a negative sign which means that one unit increase in the quality of population will cause a decrease of 1,590 mosques. Again one unit increase in the number of mosque associations will increase the number of mosques by .6 unit. Of the three variables, Population is the most important determinant of the number of mosques in rural areas, which is followed by, in order of importance, Demographic Development Index and Number of Mosque Associations. Altogether they explain 66 percent of the variation in the distribution of mosques in rural areas. Although this is a high percentage in social sciences, it is smaller than the previous one which indicates, first, that factors explain ing the number of mosques in rural areas are not the same as the ones in urban areas, and second, there are some missing explanatory variables in the equation for rural areas.

When we look at the equation for the total population we see that in addition to two common variables, Population and the Number of Mosque Associations, two new variables, Demographic Development Index and Education appear in the equation. The last two variables have minus sign which indicates their negative influence on the number of mosques for the total population. That is, when the quality of population and level of education increase, there would a be decrease in the number

of mosques. As a matter of fact, one point increase in education and demographic index will imply a decrease of 1,265 and 1,999 mosques respectively. As for positive effects, one more mosques association will increase the number of mosques by 2.3 units, and an increases of 10,000 in population will mean two more mosques. For the total population the most important factor in determining the number of mosques is the number of mosque associations. This study shows that contrary to what is believed so far, mosques in Turkey are built not only by the initiative of a few individuals but also by the efforts of volunteer organized groups. The importance of mosque associations in determining the number of mosques has quite important theoretical implications which can explain the social and cultural role of the mosques for Turkish society and the immense variations in the distribution of mosques which is guided only by the consciousness of the people, with no intervention from the state whatsoever. Other variables, in order of importance are: population, education and demographic development index. All the four variables taken together explain 70 percent of the variation in the distribution of the mosques.

CONCLUSIONS

This is the first quantitative analysis of mosques in Turkey and throws light on a number of important issues. The first of these is the increase observed in terms of the number of mosques in towns between 1971-88. Villages, subdistricts and cities are behind the increases experienced in towns in the number of mosques. Compared to 1971, in 1988 mosques increased in towns by 135 percent while the corresponding increase in villages and subdistricts was 38, and in cities, 24 percent. When the increases in mosque numbers are compared with the increases in population, it appears that increases witnessed in cities and towns in mosque numbers were actually behind the increases in population, while the reverse was true for villages and subdistricts. Contrary to claims, population increase was 50 percent while increase in the number mosques was 47 in the period between 1971 and 1988.

During the period between the military coup of 1981 and 1988, the population increase in city and town centres was more than the increase in the number of mosques, while the reverse is true for villages and subdistricts. In this period, increase in the number of mosques (32%) left behind the increase in population (20%).

For the period under investigation here (1986-88), increases in

population and in mosques were 8.2 percent and 11.5 percent in cities and towns respectively; in villages and subdistricts the corresponding figures were 2 and 2.8 percent respectively. During this period population increase was 5.3 percent while increase in the number of mosques was 4.6 percent. These percentages indicate that the overall trend which was in favour of population between 1971-88 is repeating itself towards the end of this period. The fact which did not change in all the three periods mentioned above, was the higher increases observed in the number of mosques in villages and subdistricts.

In 1988, the average number of mosques in city and town centres was 168 while it was four times more (672) in the villages. Another point that this study makes is regarding the distribution of mosques in the country. Mosques are distributed considerably differently in both the urban and rural areas. The provinces where number of mosques increased the most are Zonguldak (233), Samsun (160), Kastamonu (142), Ankara (135), Istanbul (129) and Icel (106). Mosques built in the villages of the first three provinces are also much higher than that of the other provinces (190, 103 and 109 respectively). Similarly, the number of mosques built in the centres of Istanbul and Ankara is much higher (118 and 124 respectively) than the ones built in the other cities. The following provinces are noteworthy with respect to the number of mosques they had in 1988 and increases they experienced between 1986-1988: Istanbul, Bolu, Zonguldak, Kastamonu, Samsun, Ordu, Trabzon, Mardin, Diyarbakir, Adana, Icel, Antalya, Manisa, Ankara and Konya.

The number of mosques per 100,000 people (MFR) is actually a theoretical construct and is created to take the population of the provinces into account and to make legitimate comparisons between the provinces. In fact, since both the number of mosques that provinces had and their population show some differences, MFRs naturally turn out to be considerably different from each other.

With respect to the total population, MFR was 144.5 in 1986 which increased slightly to 145 in 1988. For rural population these numbers are 205.3 and 207.9 respectively for the above years. Average MFR for the urban areas was 58.4 in 1986 which increased to 60.9 in 1988. In three provinces, Kastomonu, Zonguldak and Cankiri, MFR increased by 10 percent in this period. Provinces of Bilecik, Hakkari, Van and Agri experienced five percent decrease in their MFRs. In general there were increase in 36 and decrease in 31 provinces.

Inter-regional comparisons indicated that Central and Eagean-Marmara regions had the highest number of mosques in their villages. The last

finding is also valid when the provinces are taken in their total population. The comparisons indicated that East-Southeastern region had the lowest figures in all three categories as rural, urban and total. In term of MFR, Black Sea is the first and Central is the second region in all residential units. These two regions also experienced the highest increases in mosque numbers in their villages.

Statistical analysis performed indicated that the number of mosques differ only for village populations of the regions. However, MFRs were found statistically different in all residential units of the regions.

As for the factors determining the number of mosques, regression analysis indicated that population, the number of mosque associations and percent of votes cast for the right-wing parties are the factors determining the mosque numbers for cities and towns; while population, demographic development index and the number of mosque associations are the major factors for villages. For the total population the number of mosque associations, population, educational development index and demographic development index are the factors determining the number of mosques in Turkey.

Overall, this study also sheds light on some issues which are of interest to social scientists in general. The evidence presented here refutes the idea that increase in the number of mosques (which is taken as an indicator of ties to religion) are witnessed only in relatively less developed provinces of Turkey. Two biggest cities, Istanbul and Ankara which are also the most developed ones, surpass other provinces in the number of mosques built between 1986 and 1988. Moreover, provinces such as Zonguldak, Samsun, Adana, Icel, Antalya, and to some degree Diyarbakir which experienced noticeable increases in the number of mosques, also support the idea that urbanization and urban way of life does not necessarily reduce ties to religion. Despite the fact that developments in education and urbanization has some adverse effect on the number of mosques, it seems that interest in mosques is cross-cutting the stereotypic characterization of residential areas as rural and urban. The same pattern is also observed for regions. When looked at regions which have the highest increase in the number of mosques one finds Eagean-Marmara and Central Anatolia, the former including highly developed provinces while the latter ones being more traditional. This phenomenon can be explained, in part, by the nature of migrants who migrate to more developed provinces. Due to their traditional background they do bring along their sentiments for religion to the urban centres. This means that no matter where they live, people tend to hold on to their religion which explains why the expected decrease in their religious sentiments did not

come about even under the influence of city life. The volunteer basis of mosque building in rural and urban areas alike is indicative of the momentum and degree of spontaneity that exists in Turkey which, as the variation in the distribution of the mosques indicates, escapes all kinds of control of any official authority.

Notes

1. See for instance, B. Aksit, "Islamic Revival in Turkey: A Synoptic Analysis of Muslim Monthly Publications" (Paper presented in the conference, Dynamics of States and Societies in the Middle East, Cairo University, 17-19 June, 1979); E. Özdalga, "Türkiye'de Islami Uyanìs ve Radikallesme Üzerine" (Paper presented in the third Political Science Congress, Ankara, 1989) ; Gencay Saylan, *Islamiyet ve Siyaset: Türkiye Örnegi* (Ankara: V Yayinlari, 1987); N. Vergin, "Toplumsal Degisme ve Dinsellikte Artis," *Toplum ve Bilim* 29/30 (1985): 9-28; and A.E. Yücekök, *Türkiye'de Örgütlenmis Dinin Sosyo-Ekonomik Tabani 1946-1968* (Ankara: Ankara Üniversity SBF Yay. No:323, 1971).

2. Timucin Sanalan, *Kalkinmada Oncelikli Yorelerin Tespiti ve Bu Yorelerdeki Tesvik Tedbirleri* (Ankara: T.C. Basbakanlik DPT, 1973); and State Planning Organization, *Kalkìnmada Öncelikli Yörelerin Tespiti ve Bu Yörelerdeki Tesvik Tedbirleri* (Ankara: SPO, 1973).

3. State Planning Organization, *Kalkìnmada Öncelikli,* 14-44.

4. B. Aksit, "Imam-Hatip and Other Secondary Schools in the Context of Political and Cultural Modernization of Turkey," *Journal of Human Sciences* 1 (1986): 25-41.

5. For the importance of small and isolated towns for Islamic movements, refer to Sencer Ayata,"Traditional Sufi Orders on the Periphery", in R. Topper ve C.Dodd ed., *Islam in Modern Turkey* (London: I.B. Tauris & Co. Ltd., 1991); and Serif Mardin,"Culture and Religion" (Paper presented in Turkey in the Year 2000 Seminar, Turkish Political Science Association, Istanbul, 1987).

6. All appendices are available from the author or from the office of *Intellectual Discourse.*