

Calendars Tell History: Social Rhythm and Social Change in Rural Pakistan

Muhammad Aurang Zeb Mughal
Durham University

Abstract

Time is an important element of social organization. The temporal models such as the calendar provide social rhythm by regulating various activities. The changing ways of managing time are indicative of social change. This paper presents the changing use of different calendars in Jhokwala Village, Lodhran District, Pakistan. Three calendars are used in most parts of the Punjab to varying degrees for various purposes. These are Bikrami, Islamic Hijri and Gregorian calendars. Each of these calendars has a specific history of use. This paper highlights that people choose between various alternatives in the course of history and the changing use of calendars tells the story of change and continuity in culture and people's attitude towards modern technology and social change.

Keywords: Social Change; Anthropology of Time; Calendars; Pakistan; Rural Social Organization

1. Introduction

Time is one of the important and basic elements of social organization. Since time, along with space, connects different parts of the social organization, any change in the cultural models of time affects the overall social organization (Barth 1967; Mughal 2008, 2014). For this reason, change and continuity in the cultural models of time indicate people's response towards social change. Time is embedded in human cognition, social relationships, economics and religion (see Adam 1994; Bender, Bennardo, and Beller 2005; Eickelman 1977; El Guindi 2008; Gingrich 1994; Mughal 2009). Different cultures have different ways of measuring and managing time according to their specific sociocultural and socioeconomic contexts. Calendars and clocks are among the most fundamental models of time, through which people organize various activities. By regulating time for different activities, calendars and clocks represent people's attitude towards time, nature and changing socioeconomic and sociopolitical circumstances (Goody 1968). There is a great deal of anthropological literature to suggest that the local context of global temporality helps to understand social change by studying the adoption of new calendars or change in the contextual use of existing calendars (see Burman 1981;

Gingrich, Ochs, and Swedlund 2002; Holtzman 2004). The calendar is not merely a system of measuring time and dividing it into years, months, weeks and days. Instead, the calendar gives a “rhythmic form” to time, which unfolds itself into social rhythms (Munn 1992, 95–96). Therefore, studying calendars in the cultural context provide us with an understanding of the social organization of time. Since the everyday rhythm of social activities is regulated by the calendar, any change in the use of the calendar will trigger changes in many other social and economic spheres of human activities.

A majority of Pakistan’s population lives in rural areas and relies on agriculture for its subsistence (Weiss and Mughal 2012). There has been a gradual shift from an agricultural to the market economy in many villages of Pakistan, mostly in the last two to three decades. Consequently, small villages are turning into towns and experiencing social change at a higher pace than they ever did in the past (Ali 2003; Niazi 2012). Many farmers have abandoned agriculture and have started to work in factories, cities or overseas. This has further boosted the process of urbanization and technological change in rural areas. Most economic and sociological analyses of social change in Pakistan only take into account the economic and political factors (see Haider 1981; Ihsan 1992; Sathar and Kiani 1998), which are not sufficient to explain the sociocultural and socioeconomic dynamics in small rural communities and how these are being influenced by the effects of globalization and urbanization. This paper explains the dynamics of social change in the Pakistani society by offering evidence from a rural perspective.

I discuss the changing use of different calendars in rural areas of Pakistani Punjab to explain various dimensions of social change in the Pakistani society. The lunisolar Bikrami calendar, locally known as the *desi maheenay* (indigenous months), has been in use in Jhokwala for several centuries for managing agricultural activities. After the advent of Islam in South Asia during the eighth century (Avari 2013, 17–36; Malik 2008, 49–63), the lunar Islamic Hijri calendar came into use by Muslims for regulating Islamic religious activities. The use of the *desi maheenay*, however, continued for agricultural purposes because the solar component of this calendar was helpful in reckoning the seasonal cycles. Therefore, the *desi maheenay* is also a source of indigenous knowledge about seasons and ecology. During the eighteenth century, the British introduced the Gregorian calendar in the region, but its use remained limited to cities even until the 1960s. The government of Pakistan officially adopted the Gregorian calendar in 1947. All the government offices now follow this calendar. The use of the Gregorian calendar in villages increased gradually after an intensive contact with cities and a gradual shift from a seasonal agricultural to market economy.

In addition to studying social change, by showing the complexity and the variety of ways different calendars organize the social rhythm of festivals and mundane activities in Pakistan, I also highlight in this paper that the conceptual models of nature are subject to social and economic transitions (see Lyon 2012; Mughal 2012). Further, studying the use of the calendar can help in making cross-cultural comparisons in anthropological analyses. For example, Muslims all over the world follow the same Islamic calendar for their religious festivals such as fasting and *Eid*, in addition to some rituals that might be localized to a region or community, for example shrine festivals. Therefore, studying rituals and ceremonies managed through the Islamic calendar can be helpful in making comparisons and understanding local contexts of widely practiced rituals by Muslims (see Bowen 1992; El Guindi 2008; Henig 2011).

I present here the case study of a small village, Jhokwala, Lodhran District, in the Southern part of the Punjab province, also called South Punjab. The older generation in the village has been using *desi maheenay*. The use of this calendar decreased over time for several reasons. One of the major reasons is the use of the Gregorian calendar in the rural areas because of an increase in contact with cities and decline in agriculture. No indigenous knowledge about agriculture and seasons associated with this calendar is being transferred to the next generations. It is a common phenomenon in many developing countries where people adopt modern technologies leaving the indigenous farming practices (Ellen, Parkes, and Bicker 2000). Since all human activities occur in time, the management and use of time are in flux. This change in the ways of measuring time indicates social and technological change caused by a number of factors. Firstly, the population grew over time and consequently there was an inadequate supply of land for agriculture. Many people changed their occupation from agriculture to wage labour, shopkeeping and government jobs, or migrated overseas in the hope that they could have a better living, which led to an urban lifestyle in the village. People started to bring televisions, washing machines and other modern technology from the cities and from overseas. Farmers also started to use modern technology in agriculture. All these changes affected the nature of social relationships in the village. For example, the exchange of services in agricultural production that was common in most agrarian communities in South Asia, known as *jajmani* (Orans 1968) and *seypi* (Eglar 1960, 32, 200; Ahmad 1977; Lyon 2004, 99–100) by Hindus and Muslims, respectively, has disappeared. This system was called *oluk* in this region. It consisted of “mutual obligations for work and payment” between a landlord and the so-called *kammis* or service occupations such as *nais* (barbers) and *mochis* (shoemakers), similar to the *seypi* system. *Oluk* is no longer practiced in Jhokwala after the widespread trend of temporary migration to cities and overseas, and opening up of alternative ways of earning such as shops and labour. The abandonment of the *oluk* system itself is an indicator of a market-based cash economy. Secondly, there has been a tremendous shift in the technology used for agriculture. There is now less reliance on animals in cultivation, harvesting and transportation of products. This technological and occupational change also affected the social organization of time. People needed money to buy machines and modern facilities, and to spend on their ceremonies and rituals. Many farmers sold their agricultural land and opened shops at the nearby highway junction, called the Adda Parmat market. People started to measure time in smaller units such as hours and minutes, in contrast to the larger units of measuring time using indigenous knowledge of cultural astronomy in the same way as they started to measure land in smaller units such as square feet instead of using larger units. The extended household shared by the entire family became fragmented into smaller nuclear units. However, people continue to use the Islamic calendar for religious activities since many generations as this calendar is an essential element of the religious organization.

There are mainly two languages spoken in the village: Saraiki and a Haryanvi dialect of Urdu. Saraiki is native to this part of Punjab and is closely related to Punjabi, as well as some other Pakistani languages. After 1947, because of the Partition, Hindus from this area migrated to India, whereas Muslims from the Indian side, mainly from Haryana, migrated to Pakistan and settled here. They speak the Haryanvi dialect of Urdu. Urdu being the national language is also spoken and understood by the entire population. Majority of the local terminologies related to calendars and seasons is not radically

different between these languages. I have used the terms that are common in Urdu and Saraiki, except in the section related to the indigenous months and seasons where almost all terms are Saraiki, unless I notify otherwise. This is because the detailed information related to these topics, such as folklore, comes from Saraiki respondents. There is a minor difference in the pronunciation of a few terms related to indigenous months and seasons in both the languages.

The ethnographic data used in this paper were collected in 2010. After developing rapport in the community, it became easier for me to engage myself with its members in their activities. People let me in in their social lives, be it a cricket match or harvesting the crop, which they deemed necessary to be documented as part of their culture. Participant observation, the most significant feature of anthropological research, of routine activities, helped me in understanding how people form and maintain social relations (Holy 1984, 13–34). I participated in mundane activities and special events whenever it was possible and whenever the community allowed me. This provided me with an insight into how people create, experience and utilize time. A “person-to-person interaction” in the form of an interview with “a specific purpose in mind” is the most commonly used technique for data collection in social research (Kumar 1999, 109). I conducted semi-structured individual interviews after drawing a suitable sample from the socioeconomic survey and through snowball sampling. Focus Group Discussions provided valuable and reliable information, which I also used to crosscheck the information collected through other methods. Since this study did not involve any sensitive topics such as conflicts, sexuality and drugs, I could collect detailed and authentic information through open-ended group discussions and interviews. I discussed in these interviews the topics such as routine activities of people, their time allocation for various activities, issues regarding social development and modification in the time measurement methods over time. I conducted group interviews with people from different age groups and occupations to see how people from different social and economic groups have different understandings and attitudes towards time. I used a digital recorder during the interviews as these conversations included indigenous terms, names, phrases and stories. This flow of conversation was helpful in analysing the meanings and etymology of these terms in the cultural context. Further, some minor details may have otherwise been missed, which are either difficult to remember with accuracy or note down on the spot if I were not using the digital recorder.

Collecting the case studies of certain events and life histories was helpful in many ways. Participating in various ceremonies, cultivation, harvesting and social get-togethers was useful in terms of studying people’s time trends, by analysing the frequency of the occurrence of such events as well as the timings and places of these events. Data on these case studies come from participant observation, interviews and informal discussion. Myths, oral traditions and folklore are important sources of information, and many anthropologists have used these methods to study time (Errington 1974; Harwood 1976; Ohnuki-Tierney 1969). Studying the experiences of one generation passed on to the next generation through oral stories gives an insight into the social and moral world of the past. These social realities of the past were compared with contemporary conditions to see what changes had taken place in these trends with the passage of time (Bertaux and Thompson 2005; McComb 2008). These oral traditions contain information about time measurement, memories of certain events and stories about different places. I collected

these oral traditions in the form of phrases and myths, and analysed them in order to ascertain the concepts of time embedded in these oral traditions within the cultural context.

2. The Bikrami Calendar or *Desi Maheenay*

One afternoon, in mid-July, it started raining when I was discussing about various crops and seasons with one of my hosts during the fieldwork, Zafar Chaudhary, along with some people from Jhokwala and the nearby villages. Among those people, Ahmed said that the month of *Saawanrr* had come. I asked how he knew that *Saawanrr* had come. He replied that the rainy season comes at the end of summer, and they called it *Saawanrr*. Zafar added that these were the *desi maheenay*, which the *vadday* (elders and ancestors) used to calculate when they lived with Hindus. They told me that through these months farmers could make *hisaab* (calculation) of seasons and timing of different crops. Nowadays, people no longer formally practice this calendar.

These *desi maheenay* are, in fact, the Bikrami calendar. This served as an agrarian calendar in Punjab. Archaeological and historical evidences suggest that several local calendars were used in South Asia as early as 2000 BCE (see Ashfaque 1977; McIntosh 2008, 345–348). These calendars were devised by using astronomical knowledge and were used to regulate religious activities, mainly in Hinduism (Kennedy, Engle, and Wamstad 1965). Ancient scriptures such as Rig Veda mention these calendars to mark the religious festivals and seasonal cycles. Interestingly, no uniform calendric system has been practiced by rural communities in South Asia since ancient times. Instead, people used different calendars in different regions and cities. Today, general terms such as *desi*, Hindu, Vedic, Punjabi, or Sindhi calendars are used for various forms and eras of these calendars.¹ Almost all of these calendars are lunisolar, having both lunar and solar components, which are synchronized through various methods (Freed and Freed 1964). The differences in these calendars are of religious, astronomical, linguistic and historical concern. For instance, crescent is the first date of the lunar month in some regions, such as Pakistani Punjab and the Northern India, whereas in other regions, such as Southern India, the full moon marks the new lunar month. The names of months are slightly different across different languages and regions but are, in many cases, mutually intelligible.

The most widely known eras are the Bikrami and the Saka. People living in different regions of South Asia practicing the same eras may have followed different astronomical traditions. According to Al-Beruni, the Bikrami era marks the victory of Vikramaditya of Ujjain over the Saka rulers in a battle that took place between Multan and the castle of Loni in 57 BCE (Sachau [1910] 2007, 6).² Loni is now a small village in Kahrora Paccā tehsil (sub-division) of Lodhran District. Vikramaditya is also pronounced as Bikramajeet in Punjab. Later on, many rulers used this name as a title. The Sakas regained power but Shalivahana Gautamiputra Satakarni, the grandson of Vikramaditya, defeated them and initiated the Shalivahana-Saka era in 78 CE (Sagar 1992, 136). Its name was simplified later in general use as the Saka era. The Indian government formalized the official Indian national calendar in 1957 based on the Saka era (Penprase 2010, 157). The Bikrami era is traditionally practiced in the Northern and Western parts of India, and Pakistani Punjab, including Lodhran.³ The Bikrami calendar, with slight variations, is recognized as the

official calendar of Nepal. Similarly, Sikh organizations adopted the solar Nanakshahi calendar globally in 2003, which is, in fact, an amended version of the Bikrami calendar (Nesbitt 2004, 50–65). Eickelman (1977, 44) found that Moroccan tribesmen do not recognize the formal name of their calendar. The same is valid for the people in Jhokwala as they, too, do not recognize the formal name of the Bikrami calendar. Murphy (2001, 195) also mentions that the people in Lahore use the term *desi maheenay* for this calendar. Eglar (1960, 50–51, 204) used the terms farmers' calendar and "Punjabi months" for this calendar in her study of a Punjabi village. However, some people in Jhokwala do recognize its formal name mainly because some local newspapers also print the date according to the Bikrami calendar. People are unaware of the history of this calendar and its association with the history of Lodhran. Not only Saraikis widely used the *desi maheenay*, but Rajputs also practiced the same calendar when they lived in Haryana. In fact, both Haryana and Punjab follow the same astronomical traditions in their practice of this calendar.

It is a lunisolar calendar having two components: lunar and solar. The synodic period or the time required for the moon to complete one series of its successive phases is known as the lunar month. Twelve such synodic periods of the moon form a lunar year. A lunar month is roughly equal to 29.5 solar days. There are twelve months in the Bikrami calendar and each month starts approximately in the middle of a Gregorian month. *Chaitr* is the first *desi* month and starts in the middle of March. Each month has fixed days, either thirty or thirty-one, except some yearly alterations of either a day or two in one or two months. Usually the months from *Wisaakh* to *Asoon* are of thirty-one days. The intercalation between the solar and lunar cycles is done by adding a thirteenth intercalary month after two or three years. People do not know the exact method of intercalation between the lunar and solar cycles except for a few elderly people who can roughly describe this method. They explained to me that the new month begins when the cycles of the moon and the sun meet. The time or day when the sun enters into a new zodiacal sign within a lunar month, marking the beginning of a new *desi* month, is called *saghraand*. The corresponding year of the Bikrami calendar in 2010 was 2067, as the Bikrami calendar is 56.7 years ahead of the Common Era. However, the chronological record of this calendar has no importance for the community; instead, people use the cyclicity of months to reckon the agricultural cycles. In Hinduism, some religious festivals are celebrated according to the lunar cycle, whereas others are celebrated according to the solar one. Therefore, for Hindus, it is important to calculate both the components and synchronize them for practical reasons. Muslims celebrate their festivals according to the lunar Islamic Hijri calendar instead, but they have been using the Bikrami calendar for reckoning the seasonal cycles.

The use of the Bikrami calendar is declining and is limited to some elderly people now. Khuda Bukhsh learnt the calculation of these months from his elderly relatives and parents. According to him, Muslims used *desi maheenay* for calculating seasons and agricultural activities:

Now, the current month is *Saawanrr*. After this, *Badroon* will come, then *Asoon*, then *Katiyen*, then *Manghir*, then *Poh*, then *Mah*, then *Phagunrr*, *Chaitr*, *Wisaakh*, *Jeth*, *Ahrr*. These four are big. Then I tell, *Ahrr* has passed, *Ahrr*, *Saawanrr*, and *Badroon*. These are the months of summer. *Asoon*, *Katiyen*, *Manghir*, these are of

autumn. *Poh*, *Mah*, *Phagunrr*, these are of winter. *Chaitr*, *Wisaakh*, *Jeth*, these are of spring. Those people [ancestors] had a good memory. Hindus, they also used to tell this [calculation of months]. They had written calculations [of these months] with them. (Khuda Bukhsh, 75)

This does not imply that people do not calculate the *desi* months at all. Whenever I asked them what *desi* month it was, they were usually able to tell the name of the current month. They were, however, not sure about the exact date. They used the expressions such as “n month may be ending” or “n month may be starting”. This became convoluted when I asked this question in the very early or last days of a month because people then confused between two consecutive months. Once I was passing by the fields along with my friend Tahir in the village and met some women engaged in cutting grass for their livestock. I asked a woman, in her fifties, if she could tell me which *desi* month it was. She replied that it was *Jeth*. She could easily describe the names of all the *desi* months, too. She also believed that elderly people in the village could calculate the *desi* months and that since she was illiterate she could not calculate. It was surprising for me that majority of the elderly people, who were “supposed” to be able to calculate the *desi* months, were unable to do so. Unlike the Gregorian and Islamic calendars, which are available in printed form or even in mobile phones, the only sources of knowing the exact dates of the *desi* months are local newspapers and radio. Children can only name a few *desi* months but cannot recognize the current month unless they know it from their parents.

People associate the change of seasons with these months. The seasonal variations, the movement of the migratory birds and other natural phenomena help to reckon the *desi* months. For instance, *Poh* is marked with extreme cold in winter, whereas *Ahrr* is marked with extreme heat in summer. These months played an important role in the celebration of ceremonies. For example, people used to prefer *Chaitr* and *Wisaakh* for performing marriages because of moderate weather conditions and the availability of money after harvesting wheat, and also because farmers were not busy in the agricultural activities. In Jhokwala, a season is not recognized merely by a cyclical duration of similar environmental conditions but an agricultural cycle can also define a season. There are two terms used in Jhokwala, both equally used in Saraiki and Urdu: *rut* and *mausam*. The term *rut* originates from the Sanskrit term *ritu* or *rutu*, and the Latin term *ritu*, used for periodical observances, also has common roots. There are six seasons recognized in ancient Sanskrit literature and each season marks specific religious rituals (Selby 2003). Presently, the term *mausam* is more widely used instead of *rut*. It is originally an Arabic word and is used to describe a season as well as the daily weather. The two seasons *hunala* (only used in Saraiki) or *garmi* (summer) and *siala* (only used in Saraiki) or *sardi* (winter) are marked as a dichotomy between hot and cold. These are recognized as the major seasons in everyday conversation; for instance, “*sardiyan de garam te motay kaprray*” (warm and thick clothes for winter) and “*garmiyan de thaday te patle kapray*” (cool and thin clothes for summer). Summer starts from *Chaitr* to *Badroon*, whereas *siala* starts from *Asoon* to *Mah*. People use the words *bahaar* (spring) and *pat jharr* or *khizaan* (autumn) as transitional periods between summer and winter. Table 1 shows the *desi maheenay* along with their corresponding temporal markers as well as agricultural and social activities throughout the year.

Table 1. *Desi Maheenay* and their corresponding activities and temporal markers.

<i>Desi Maheenay</i>	<i>Gregorian Months</i>	<i>Temporal Markers</i>	<i>Major Activities/ Association</i>
<i>Chaitr/Chait</i>	March-April	Cool weather	Wheat harvesting; cutting of maize and millet; marriages; festivals
<i>Wisaakh/ Bisaakh</i>	April-May	Warm and dry weather	Wheat harvesting; cutting of vegetables; marriages; festivals
<i>Jeth</i>	May-June	Hot and dry weather	Cultivation of rice, sugar and cotton
<i>Ahrr/ Haarr</i>	June-July	Extremely hot weather	Cultivation of rice, sugarcane and cotton
<i>Saawanrr</i>	July-August	Monsoon raining; <i>Bataira</i> (quail) visits	Rice cultivation
<i>Badroon/ Bhaadv</i>	August-September	Monsoon raining	Weeding paddies
<i>Asoon</i>	September-October	<i>Koonj</i> (crane) and <i>tilharr</i> (starling) visit	Cotton picking; sugarcane and rice harvesting
<i>Katiyen/ Katak</i>	October-November	<i>Murghabi</i> (teal) arrives	Wheat cultivation; marriages
<i>Manghir/ Mangsar</i>	November-December	Cold weather	Wheat cultivation
<i>Poh</i>	December-January	Extreme cold	Weeding the wheat crop
<i>Mah</i>	January-February	Extreme cold; skin scratches	Weeding the wheat crop
<i>Phagunrr/ Phaganrr</i>	February-March	Cold weather	Planting maize and millet for fodder; planting vegetables

Note: The first local term is in Saraiki while the alternate one is in Haryanvi dialect of Urdu.

Crops are divided into two categories based on their seasons: *Kharif* (autumn) and *Rabi* (spring). The *Kharif* season starts from *Wisaakh*. The *Kharif* crops, such as rice and sunflower, are normally sown in *Saawanrr* during the monsoon and are harvested in the months of *Asoon* and *Katiyen*. The *Rabi* crops, such as wheat and barley, are normally sown in the months of *Asoon* and *Katiyen* and are harvested in *Chaitr* and *Wisaakh*. Sometimes, terms such as *kanrrk da mausam* (wheat season) and *phutti da mausam* (cotton-picking season) are also used. These are, of course, not the formal divisions of a year but indicate that people associate seasons with crops. For this reason, reckoning of the seasons and the *desi maheenay* were also important for the barbers, shoemakers and others who were part of the *oluk* system. Although the use of the *desi* months has been minimized, there are still some linguistic expressions in Saraiki, which relate the *desi* months with seasonal variations. I collected many such proverbs, mainly from elderly

people. In these proverbs and phrases, the *desi* months are usually mentioned in pairs because of similar weather conditions during those months. For example:

Chaitr Wisaakh, ghumo phiro

[During] *Chaitr* [and] *Wisaakh*, walk [or travel]

Asoon Katiyen, thorra khao

[During] *Asoon* [and] *Katiyen*, eat less

Jeth Ahrr, sumo

[During] *Jeth* [and] *Ahrr*, sleep

Saawanrr Badroon, dhaan 'o

[During] *Saawanrr* [and] *Badroon*, take a bath

Manghir Poh, saiko

[During] *Manghir* [and] *Poh*, keep yourself warm [in front of a fire]

Mah Phagunrr, daikho

[During] *Manghir* [and] *Poh*, see [fire from the distance]

This pairing of months shows that there is a high degree of correlation between cyclicity of seasons and the *desi* months. It also reflects the ancient cultural reckoning of six seasons. It shows that the indigenous division of seasons into two was based on the two extreme classifications of hot and cold weather, with further six “subseasons” as reflected through the pairing of these months (Figure 1).

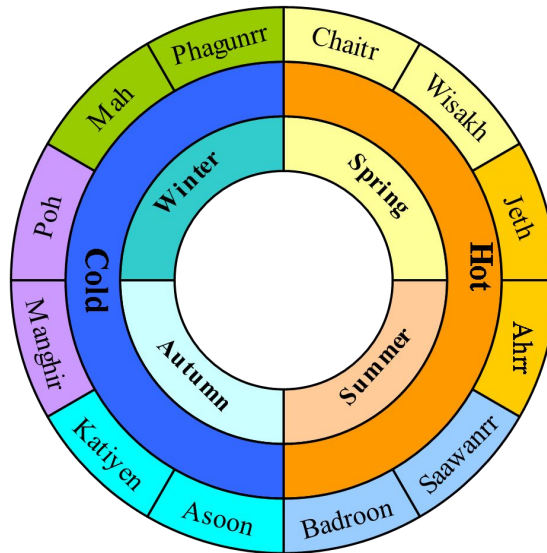


Figure 1. Seasons and the *Desi Maheenay*.

In some proverbs and everyday conversation, the distinctive features of each month are also recognized. In these proverbs, the *desi* months indicate their corresponding weather conditions. For instance:

Saawanrr aaya, siala jaya
Saawanrr comes, [it indicates that] the winter [is about to] born
Mah di thadi luhrrri!
The cool breeze of *Mah*!
Phagunrr kandhi lagunrr
Phagunrr [makes one] stick to the wall [to take shelter]
Badroon bad bla wat wee Saawanrr hovay ha
Badroon [is a] curse, would that *Saawanrr* may have been [continued]

Both *Badroon* and *Saawanrr* are associated with rainfall. In the last proverb, *Badroon*, which follows *Saawanrr*, is being cursed because of the unexpected timings of showers and an increase in cold during this month. The pairing of months in proverbs exists not only between the two subsequent months, but also between any two months having similar weather conditions. For instance:

Asoon Mah wilala, deehyen dhuppeen raateen siala
Asoon [and] *Mah* [are] strange, [its] days are sunny [and its] nights [are like] winter [during these months]

In the last proverb, the seventh *desi* month of *Asoon* and the eleventh month *Mah* are mentioned together. This is due to similar weather conditions as these are the transitional months between summer and winter.

3. The Islamic Hijri Calendar

On the evening of 25 July, I was sitting with Tahir in his office. Suddenly we heard the sound of a blast followed some more in a sequence. When we came out on the road, a few boys were setting off fireworks. Tahir told they were celebrating *Shab-e-Baraat* (the Night of Innocence) as the fifteenth *Sha'ban* was going to be on 28 July.⁴ *Sha'ban* is the eighth month according to the Islamic Hijri calendar. This calendar is important from a religious perspective. Muslims all over the world use the Islamic Hijri calendar to regulate their religious activities. The origin of this calendar marks the year during which the Islamic Prophet migrated from Mecca to Medina in 621 CE (see El Guindi 2008, 113–121). The Arabic for migration is *hijrat*; thus, this calendar is known as the Hijri calendar. Islamic festivals such as *Eid*, *Milad-un-Nabi* (Birth of the Prophet) and fasting are celebrated using this calendar. Some Islamic months have more significance than others in terms of the religious activities associated with them such as *Muharram*, *Rabi-ul-Awal*, *Rajab*, *Sha'ban*, *Ramazan*, *Shiwaal* and *Zilhajj* (Table 2). It is a lunar calendar comprising 354 days in common years, and 355 days in the embolismic years divided into twelve lunar months. The lunar months drift eleven or twelve days earlier in every seasonal year and the seasonal relation repeats itself every 33 Islamic years (Richards 1998, 231–235). Crescent has become a central notion of Islamic symbolism

because of this lunar calendar. This calendar was introduced in South Asia when Islam first came into the regions of Sindh and South Punjab in the eighth century. The use of this calendar spread across South Asia as Muslim rulers adopted it as the official calendar.

Table 2. The Islamic Hijri calendar.

<i>Name of Month</i>	<i>Important Dates</i>	<i>Major Activities</i>	<i>Taboos</i>
<i>Muharram</i>	1-10 th : Battle of Karbala in 680 CE	Charity is given especially on the evening of 10 th	Marriages or any festivals of happiness are not celebrated; playing music is not appreciated
<i>Safar</i>	Suffering	<i>Taviz</i> at doors	
<i>Rabi-ul-Awwal</i>	12 th : <i>Milad-un-Nabi</i>	Celebration of <i>Milad</i>	
<i>Rabi-us-Sani</i>			
<i>Jamadi-ul-Awwal</i>			
<i>Jamadi-us-Sani</i>			
<i>Rajab</i>	27 th : <i>Me'raj</i>	Charity and prayers	
<i>Sha'ban</i>	15 th : <i>Shab-e-Barat</i>	Celebration and prayers of <i>Shab-e-Barat</i>	
<i>Ramazan</i>	<i>Lailat-ul-Qadar</i> occurs during the last ten days	Fasting; <i>e'ikaaf</i> in the last ten days; preparations for <i>Eid</i>	Eating publicly during the day is not appreciated
<i>Shiwaal</i>	1 st : <i>Eid-ul-Fitr</i>	<i>Eid</i> prayers; meeting with relatives and friends	
<i>Zeeqa'd</i>			
<i>Zilhajj</i>	8-12 th : <i>Hajj</i> 10 th : <i>Eid-ul-Azha</i>	Animal sacrifice	

Note: The terms represent the local variants of the original Arabic terms.

According to Islamic teachings, people have to sight the moon in order to confirm the start of a new Islamic month. Before the introduction of the media and modern transportation, Muslims had to rely on local witnesses of crescent sighting to celebrate any religious event. Therefore, it was quite possible that one town celebrated the event on one day while the other on the following day. After independence, the government of Pakistan formed the central crescent sighting committee, which gathers scientific information and eyewitnesses regarding crescent sighting. If the committee confirms any incidence of crescent sighting, the whole country celebrates the religious event corresponding to that month on the same date. All the people I spoke with could easily tell the exact order of the Islamic months. People normally do not calculate the exact date of the Islamic month unless there is any religious festival or ritual occurring in that month. Some people start counting the weeks or days remaining for the months like *Ramazan*, which is the fasting month. People start asking each other how many days are left for *Ramazan*. In 2010, the Hijri year was 1431 AH.⁵ The chronology of this calendar is less important for people, albeit they do recognize that it is the fourteenth century according to this calendar. The reference to fourteen centuries according to the Islamic calendar is usually given when comparing the modern times with the early period of Islam.

Muharram is the first Islamic month. Its major significance is regarding the incidence of Karbala. Imam Hussain, the grandson of the Islamic Prophet, was martyred in Karbala, Iraq, along with his family and friends in 680 (61 AH). The Shia mourning procession during *Muharram* is the commemoration of this incidence. There are no mourning processions or public performances of any ritual in Jhokwala during *Muharram* as the entire population is Sunni. In the mosque, the Friday Sermon or any lesson during the first ten days of *Muharram* mentions this incidence with great respect. On the tenth day of *Muharram*, called *Ashura*, people visit the cemetery. They pray for their deceased relatives and leave flowers and green leaves at the graves. Women visit the cemetery on the eleventh. Some people give *khairat* (charity) and distribute food and sweets during this month. There was no music being played at any shop or public place particularly in the first ten days of *Muharram* during my fieldwork. People prefer not to perform marriages or other festivals of happiness during this month. The second Islamic month, *Safar*, is also considered as a month of suffering. Some people paste a *taviz* (prayers written on a piece of paper) at the lintels of their doors to remain safe from sufferings during this month.

The fourth Islamic month, *Rabi-ul-Awwal*, marks the great celebration of the birth of the Islamic Prophet Muhammad, known as *Milad-un-Nabi*, on the twelfth.⁶ This day and month have religious significance for Muslims all over the world, particularly Sunnis (El Guindi 1995; Tapper and Tapper 1987). At the Adda Parmat market, there were a couple of special stalls where badges and other colourful paper flags were sold, with a dominant green colour. Some young men from Jhokwala and other areas went to participate in public rallies in Lodhran with green flags. *Maloods* or *naats* (devotional poems in praise of the Prophet) were recited in mosques and at various ceremonies. During this month, some people arranged public gatherings of friends, neighbours and relatives at their homes in which the devotional poems were recited in Urdu, Saraiki and Punjabi. During the seventh Islamic month, *Rajab*, another religious event of *Me'raj* (Night Ascension of the Prophet) is observed on the twenty-seventh. On this day, a special lesson or lecture about the event is also delivered after the Night Prayer. Mosques are decorated with lights

on the fifteenth of *Sha'ban*, the eighth Islamic month, to celebrate *Shab-e-Baraat*. It is also believed that angels present the deeds of people to Allah for the past year in this night and receive new orders about their fate for the next year. Mosques are decorated with lights and people visit at night and take pictures of them.

People are busy buying groceries and preparing for *Ramazan* in the later days of *Sha'ban*. Whenever I visited the Adda Parmat market during these days, people were buying flour, oil, rice, sugar and other items of household consumption in bulk. *Ramazan*, the ninth Islamic month, is very significant from religious, social and economic perspectives and, therefore, has been an important domain to study religion and economics in Muslim communities (Armbrust 2002; Schielke 2009). People observe *rozay* (s. *roza*; fasting) during the whole month and a significant change in their daily routine can be observed. During my fieldwork, in the evening of the eleventh of August, which was the twenty-ninth of *Sha'ban*, radio and television announced that the moon for *Ramazan* had been sighted, which meant 12 August was the first day of *Ramazan*. It was announced over loudspeakers of the mosque as well. People had waited for this announcement, as men had to offer *tarawih* prayer in congregation in the mosque after the Night Prayer. *Tarawih* prayers, which are longer than the usual ones, are offered during the whole month of *Ramazan* after the Night Prayer. During *tarawih*, a chapter of Qur'an is recited every night in sequence so that the recitation of the entire Qur'an is completed at the end of *Ramazan*. This is called *khatam shareef* (the sacred end) and is preferably done by the twenty-seventh of *Ramazan*.

During the whole month, women get up much earlier than usual to prepare the *sehri* or *suhoor* (the morning meal before the start of fasting). Announcements over loudspeakers of the mosque are made at regular intervals to wake people up for *sehri* and to tell them how much time is left before one should stop eating *sehri*. People can eat until the *azan* (call for prayer) is calling the Morning Prayer. During the *roza*, it is forbidden to eat any food or drink water or any other liquid. The *roza* is broken, preferably with dates, at the time of sunset with the *azan* calling the *Maghrib* (Evening) Prayer. This time and the meal are referred to as *aftari*. The timing in *roza* is very important as to when one has to stop eating or drinking at *sehri* and when to break *roza* at *aftari*. Nowadays, a timetable is devised by various religious authorities and is available in mosques. This gives the calculation of *sehri* and *aftari* timings in hours and minutes to assist people in managing their schedules accordingly. When I visited a big mosque in a nearby village, Kalluwala, my friends particularly asked me to see a large calendar. This calendar had the dates of all prayers, *sehri* and *aftari* timings along with the possible dates of the Islamic months corresponding to the Gregorian calendar. The radio and television broadcast special transmissions at *sehri* and *aftari*. They also describe the timings of *sehri* and *aftari* for different cities. They present religious programmes like *naats* and religious talk shows, especially regarding the issues related to fasting. There were, however, different ways of communicating timings to keep people cautious about *sehri*, before the widespread use of loudspeaker, clocks and media some thirty or forty years ago:

...there were *mirasis* or other people who used to play *dhol* (traditional drum) in the streets to wake people up for *sehri*. This was a voluntary service and some people gave them gifts and rewards. (Usman, 55)

During the daytime in *Ramazan*, people do not appreciate someone eating or drinking publicly. Children are nonetheless an exception to this norm. Everyone respects this norm because *Ramazan* is a highly venerated month. It is not only taken as a month of fasting in terms of food but also of not doing anything that is generally immoral or against Islamic teachings. If people see someone deviating from these norms, they usually say “*sharam kar*” (shame). Marriages are not performed in the fasting month of *Ramazan* as it is only a month of worship. Music and dance, which are common at marriage ceremonies, are not considered appropriate during this month. The last ten days of *Ramazan* are the most venerated days. They are important for many reasons. Qur’an started to be revealed on the night of the twenty-seventh day of *Ramazan*, called *Shab-e-Qadar* or *Lailat-al-Qadar* (the Night of Value). The occurrence of this sacred night is not fixed to any date and is not given in Islamic sources too. It can occur at any of the nights in the last ten days with odd dates such as twenty-first and twenty-third. However, generally the twenty-seventh is considered as *Shab-e-Qadar*. It is a *sunnat* (way of the Prophet) to stay in the mosque during the last three, seven or ten days, called *e’tkaaf*.

It is an isolation from the world. Only worship. Offering complementary prayers, reciting Qur’an and doing *zik’r* (a devotional act of repeating Allah’s names). *E’tkaaf* ends with the end of *Ramazan*. At the moon of *Shiwaal*. When the moon [sighting] is announced, relatives and friends go to congratulate the person sitting for *e’tkaaf* with sweets and *sehras*. (Sajjad, 23)

Women practice *e’tkaaf* by confining themselves in a corner of their homes and not involving themselves in household activities. The sighting of the new moon of *Shiwaal* is also very important. It marks the end of *Ramazan*, meaning that people will not offer *tarawih*, there is no preparation of *sehri*, and *e’tkaaf* is finished. Similarly, they have to prepare for *Eid*, for example, laying out their new clothes and shoes, and doing other shopping. The first day of *Shiwaal* is *Eid-ul-Fitr*. The *Eid* prayer is offered in a big ground called *Eidgah*, in which people from the nearby villages also join.

After about half and a month, Muslims perform *haji* pilgrimage in Mecca, Saudi Arabia, from the eighth to the twelfth *Zilhaji*. Millions of Muslims from across the world travel to Mecca to perform the pilgrimage. It is an obligation for every adult Muslim to perform *haji* once in a lifetime, if he or she has the ability with respect to finances and health. Being one of the most important religious rituals, an expression of unified Muslim identity and having economic significance, *haji* has a special cultural value (Hammoudi 2006; Porter 2012). It is not possible for every person to perform the pilgrimage even once in lifetime considering economic and or health constraints. In Pakistan, when a person is going to perform *haji*, relatives and friends visit him or her before departing to Mecca and say *mubarakbaad* (congratulations) for being lucky enough to go to perform the pilgrimage. One’s ability to go for *haji* is considered a matter of *qismat* (luck and fate). It is believed that one can only have this opportunity if the person has a true desire and Allah willing. People told me that many people have money but they die before they could perform *haji* because it was not in their *qismat*. When someone returns after performing *haji* in the village, friends and relatives gather at his or her home to celebrate the event. They offer sweets and flowery garlands to the person. Another important and

interesting aspect of performing *hajj* is that people start calling the person *haji* (the man who has performed *hajj*, for the woman the term *hajani* is used). *Haji* becomes a prefix title with the man's name, for example Haji Siddique and Rao Haji Lal Din.

Eid-ul-Azha or *Qurbaani vaali Eid* (*Eid* of sacrifice) is celebrated on the tenth of *Zilhajj*. People slaughter a goat, a sheep, or a cow, whatever they can afford, if any, as a sacrifice to commemorate the event of Prophet Abraham's offering to sacrifice of his son according to the will of Allah. The animal for sacrifice is bought a few weeks or days earlier than the *Eid*. Children play with their animals during these days. The animal can be sacrificed any time after *Eid* prayer until the third day of *Eid*, albeit people prefer to do the sacrifice on the first day. Every family slaughters their animal in their own house. A butcher, or any man in the house who knows the *halal* (accorded by Islamic teachings) method, slaughters the animal. Women do not take part in the slaughtering process but are responsible for dividing this meat for distributing it to relatives, neighbours and poor people. Men and children then take the meat in bags and distribute it. Children particularly enjoy *Eid* as they get an opportunity to have fun:

...we wear new clothes, new shoes...then we go for [*Eid*] prayer, then we go to the fair, then we play. (Waqas, 14)

Like during *Eid-ul-Fitr*, people visit their relatives and host them for meals at their homes. On both *Eids*, some young men from the village visit Lodhran city to visit the special fairs and enjoy special parties with friends.

4. The Gregorian Calendar

There is enough evidence to suggest that Indians knew the Western solar calendars as early as the fourth century (Freed and Freed 1964, 72–73). These calendars were not popular then because the local calendars fulfilled all economic and religious needs. The East India Company introduced the Gregorian calendar into South Asia in 1757, initially in Eastern India, and then officially adopted it in the same year (Sutton 2010, 74). The Gregorian calendar was thus the official calendar of the British Raj after replacing the Islamic Hijri calendar, which was the official calendar during the Mughal era. However, Hindus, Muslims and other religious communities always managed their religious festivals according to their own calendars. Muslim scholars continued using only the Hijri reference to dates in their books.

Following Independence in 1947, the Government of Pakistan adopted this calendar for civil purposes, as a colonial legacy. I visited the official records of land, health, education, crimes and agriculture in local offices, health centres, schools and police station. These all mentioned only Gregorian dates. People in Jhokwala referred to the Gregorian calendar as *angrezi maheenay* (English months). The literature provided by the government to the staff in its agricultural department and farmers is based on this calendar. In the agriculture office, whenever any farmer comes, the appointments are fixed according to the Gregorian calendar, as it is the “calendar of the day”. The contact of farmers with the government offices, cities and markets has increased the use of this calendar in their lives. My appointments for meetings with people, including farmers, were also scheduled according to the Gregorian calendar. This was not only because I was

comfortable with this calendar but also because people schedule their meetings and all their activities according to this calendar. The major reason behind this practice is that the date according to the Gregorian calendar is readily available through mobile phones, television and newspapers, and one can inquire about the date from anyone around and so be punctual. Everyone, including children, is aware of the dates according to this calendar. In contrast to the other two calendars, people always told me the exact date according to this calendar. Children, who were not good at counting the *desi* or Islamic months, were fluent in counting the exact order of the *angrezi maheenay*. Although the Islamic calendar is part of the school curriculum and students can identify and tell the name of the current Islamic month, they do not see much use for this calendar in their everyday life, except for some rituals. On the other hand, the school registration, hospital, national identity card and all other facilities ask for a person's date of birth according to the Gregorian calendar. Both the modern educational and occupational systems also require the counting of Gregorian years (chronology) for planning purposes, for example when to promote an employee to the next grade, the retirement age and the number of years a person has served in the office.

The use of the Gregorian calendar is not limited to mundane activities. Only some public holidays such as *Eid*, *Milad-un-Nabi* and *Ashura* are regulated according to the Islamic calendar. It is because these are religious festivals. All other national holidays such as Independence Day, Pakistan Day, Iqbal Day and Quaid-i-Azam Day are celebrated according to the Gregorian calendar on 14 August, 23 March, 9 November and 25 December, respectively. Nearly all the schools in the area held special celebrations on these days. The radio and television celebrate these events with special transmissions just as on *Eid*. Similarly, the examination timetable, award-giving ceremonies and holidays' timetable in the schools are regulated through the Gregorian calendar. Table 3 shows some major public holidays and festivals that are celebrated according to the Gregorian calendar.

Rao Mehfooz and Rao Aulia told me that they considered only the Islamic and *angrezi* months to fix the dates for the marriages of their children. This is common to all the people in the village. It indicates that the Gregorian calendar is now an integral part of the social organization. The economic significance of shrine festivals, especially in agrarian communities, is a common phenomenon almost everywhere in Punjab (Lyon 2004, 209–223). The *urs* (annual festival) at the shrine of Hazrat Pir in Jhokwala is celebrated soon after the wheat harvest, in summer. The date of the *urs* is fixed according to the Gregorian calendar. In 2010, the *urs* was celebrated on 16 June. According to Sajjad, it was observed in consideration that the corresponding Islamic month was suitable for festivals. For instance, the timing of this ceremony could be shifted forward or backward if it coincided with *Muharram* or *Safar*.

Table 3. National days and local festivals according to the Gregorian calendar.

Name of Month	Holidays and Festivals
January	
February	5 th : Kashmir Solidarity Day
March	23 rd : Pakistan Day
April	21 st : Allama Iqbal Day
May	1 st : Labour Day
June	16 th June: <i>Urs</i> of Hazrat Pir
July	
August	14 th : Independence Day 11 th : National Minorities Day
September	6 th : Defence Day 9 th : Quaid-i-Azam Day
October	
November	9 th : Allama Iqbal Day
December	25 th : Quaid-i-Azam Day and Christmas

The increase in the use of the Gregorian calendar had several factors behind it; among these are the gradual transition from an agricultural economy to a market one, an increasing literacy rate and media. Therefore, it is a symbol associated with modernity and urban life. The introduction of radio, television and mobile phones has increased the use of this calendar in everyday life. The use of this calendar in Jhokwala increased so rapidly that after a generation it replaced the Bikrami calendar for agricultural purposes. Thus, the Gregorian calendar provided an alternative to the Bikrami calendar. It also translated the seasonal context with December and January as being the coldest months, instead of the *desi* months of *Poh* and *Mah*, and June as the hottest month, instead of *Ahrr*. On the contrary, the Gregorian calendar has not replaced the Islamic calendar. This is because the solar Gregorian calendar has not been practically viable to replace the lunar Islamic calendar due to ideological and religious reasons.

5. Conclusion

I have shown that calendars through which people measure and manage time are an important part of the social organization in Jhokwala. Freed and Freed (1964) mentioned various calendars being practiced in rural areas of Northern India. They suggested anthropologists to be cautious as to which calendar they referred to while making an appointment with local people. This suggestion may not be valid in Pakistan, at least in many urbanizing villages of Punjab today, because Pakistanis use the dates of the Gregorian calendar by default unless they refer specifically to the Islamic calendar. They do not count the exact dates of the *desi maheenay*. People used the Bikrami calendar for centuries even after they adopted the Islamic calendar. There were several reasons behind the continued use of the Bikrami calendar. Firstly, indigenous knowledge about seasons and agriculture was linked with this calendar. Secondly, many Muslims worked as peasants on the lands of Hindus and their economy was linked with the Bikrami calendar as Hindus celebrated their rituals and managed their economy through this calendar. The increase in using the Gregorian calendar had similar reasons. Firstly, after 1947, accurate knowledge about seasons and the Bikrami calendar started to decrease after Hindus left the area. Elderly people who used to own this indigenous knowledge continued using the calendar until the Gregorian calendar came into frequent use through the media and modern education. Secondly, farmers have to rely on the government to provide information about crop diseases, pesticides and timings of cultivation and harvesting. Since the government staff and dating in the agricultural literature use only the Gregorian calendar, farmers have to follow this calendar in order to adjust to this system. Other factors like modern education, the media and market economy also boosted the shift from the Bikrami calendar to the Gregorian one. On the contrary, the Islamic calendar has been consistently used over centuries, and both the elders and new generations use this calendar for regulating religious activities. This calendar serves as a reference point for religious events, which are an important part of the village's social organization.

The cyclicity of time through years, months, weeks and days gives a rhythm to social organization. This rhythm maintains social and economic relationships and human relationship with nature through various temporal markers. The change and continuity in the use of different calendars and other temporal models in Pakistan show the preference of people to choose between different cultural and economic alternatives they encounter over the course of history. These alternatives can be the result of social change over generations. The continuity in the use of the Islamic calendar is not incidental: it was the result of a continued practice for the sake of identity and religious activities. Similarly, people used the Bikrami calendar for economic and social reasons. When these economic and social circumstances changed, people gradually adopted the Gregorian calendar as a response to socioeconomic change.

Acknowledgements

This paper is based on my Ph.D. project at Durham University. I am grateful to my supervisors Dr Stephen M. Lyon and Dr Iain R. Edgar for their guidance and support in carrying out this project, without which it could not have been possible. My arguments in this paper are also the result of my M.Sc. dissertation on time and social change, supervised by Dr Mina Zulfikar Ali at Quaid-i-Azam University, Islamabad. My special

thanks go to the people of Jhokwala and District Agriculture Department, Lodhran, for providing me their full support during fieldwork. Earlier versions of this paper were presented at the annual Pakistan Workshop 2010, UK, Durham Anthropology Conference 2011, UK, and Cultural Models of Nature and the Environment Workshop 2011, USA. I am thankful for the valuable comments from the participants at these events. I am also thankful to the anonymous reviewers for their comments to improve this paper. This project was supported by Durham University (Durham Doctoral Fellowship), the Royal Anthropological Institute (Sutasoma Award) and the Charles Wallace Trust (Doctoral Bursary).

Notes

[1] In some areas of Pakistan, particularly in rural Balochistan, some communities also follow variants of the Iranian calendar.

[2] Abu Raihan Al-Beruni (973–1048) visited India in the eleventh century and documented Indian cultures, astronomy, beliefs, and practices by using participant observation and other methods that are now being used by anthropologists. Although modern anthropology is considered as a product of colonialism, Ahmed (1984) claims for him the title of the first anthropologist. Al-Beruni wrote many books and most of them have not been translated yet. One of his books on India, popularly known as *Kitab-al-Hind*, is the only historical source of many events in India, which was translated by Sachau ([1910] 2007).

[3] In Sindh, a variant of this calendar is known as the Sindhi calendar or sometimes the Sindhi Samvat. Hindus call this calendar as the Vikram Samvat in Hindi.

[4] There is a slight difference in the pronunciation of the names of the Islamic months in Arabic and in Pakistani languages. I have used the spellings that best convey the local expressions. For example, The Arabic name of the month, *Ramadan*, is pronounced as *Ramazán* in Urdu as well all in other Pakistani languages.

[5] AH abbreviates for ‘After Hijra’t’ (Hijri).

[6] The festival is also called *mawlid*, *mulud*, or some local variations of the same word in different countries. In some countries, it is celebrated on the tenth *Rabi-ul-Awwal*.

References

- Adam, B. 1994. “Perceptions of Time.” In *Companion Encyclopedia of Anthropology*, edited by T. Ingold, 503–526. London: Routledge.
- Ahmad, S. 1977. *Class and Power in a Punjabi Village*. New York: Monthly Review Press.
- Ahmed, A. S. 1984. “Al-Beruni: The First Anthropologist.” *Royal Anthropological Institute News (RAIN)* 60: 9–10.
- Ali, M. Z. 2003. “Agrarian Society in Transition: Modernization, Development and Change – A Case Study of the Potwar.” PhD thesis, Quaid-i-Azam University.
- Armbrust, W. 2002. “The Riddle of Ramadan: Media, Consumer Culture, and the ‘Christmasization’ of a Muslim Holiday.” In *Everyday Life in the Middle East*, edited by D. Bowen and E. Early, 335–348. Bloomington, IN: Indiana University Press.

- Ashfaque, S. M. 1977. "Astronomy in the Indus Valley Civilization: A Survey of the Problems and Possibilities of the Ancient Indian Astronomy and Cosmology in the Light of Indus Script Decipherment by the Finnish Scholars." *Centaurus* 21 (2): 149–193.
- Avari, B. 2013. *Islamic Civilization in South Asia: A History of Muslim Power and Presence in the Indian Subcontinent*. London: Routledge.
- Barth, F. 1967. "On the Study of Change." *American Anthropologist* 69 (6): 661–669.
- Bender, A., G. Bennardo, and S. Beller. 2005. "Spatial Frames of Reference for Temporal Relations: A Conceptual Analysis in English, German, and Tongan." In *Proceedings of the Twenty-Seventh Annual Conference of the Cognitive Science Society*, edited by B. G. Bara, L. Barsalou, and M. Bucciarelli, 220–225. Mahwah, NJ: Lawrence Erlbaum.
- Bertaux, D., and P. Thompson. 2005. *Between Generations: Family Models, Myths & Memories*. Oxford: Oxford University Press.
- Bowen, J. R. 1992. "On Scriptural Essentialism and Ritual Variation: Muslim Sacrifice in Sumatra and Morocco." *American Ethnologist* 19 (4): 656–671.
- Burman, R. 1981. "Time and Socioeconomic Change on Simbo, Solomon Island." *Man* (N.S.) 16 (2): 251–267.
- Eglar, Z. 1960. *A Punjabi Village in Pakistan*. New York: Columbia University Press.
- Eickelman, D. 1977. "Time in a Complex Society: A Moroccan Example." *Ethnology* 16 (1): 39–55.
- El Guindi, F. 1995. "Mawlid." In *The Oxford Encyclopedia of the Modern Islamic World*, edited by J. Esposito, 78–82. Oxford: Oxford University Press.
- El Guindi, F. 2008. *By Noon Prayer: The Rhythm of Islam*. Oxford: Berg.
- Ellen, R., P. Parkes, and A. Bicker, eds. 2000. *Indigenous Environmental Knowledge and its Transformations: Critical Anthropological Perspectives*. Amsterdam: Harwood Academic Publishers.
- Errington, F. 1974. "Indigenous Ideas of Order, Time, and Transition in a New Guinea Cargo Movement." *American Ethnologist* 1 (2): 255–267.
- Freed, R. S., and S. A. Freed. 1964. "Calendars, Ceremonies, and Festivals in a North Indian Village: Necessary Calendric Information for Fieldwork." *Southwestern Journal of Anthropology* 20 (1): 67–90.
- Gingrich, A. 1994. "Time, Ritual, and Social Experience." In *Social Experience and Anthropological Knowledge*, edited by K. Hastrup and P. Hervik, 166–179. London: Routledge.
- Gingrich, A., E. Ochs, and A. Swedlund. 2002. "Repertoires of Timekeeping in Anthropology." *Current Anthropology* 43 (S4): S3–S4.
- Goody, J. 1968. "Time: Social Organization." In *International Encyclopedia of the Social Sciences*, vol. 16, edited by D. L. Sills, 30–42. New York: Macmillan.
- Haider, S. M. 1981. *Social Change and Development in Pakistan*. Lahore: Progressive Publishers.
- Hammoudi, A. 2006. *A Season in Mecca: Narrative of a Pilgrimage*. New York: Hill and Wang.
- Harwood, F. 1976. "Myth, Memory, and the Oral Tradition: Cicero in the Trobriands." *American Anthropologist* 78 (4): 783–796.

- Henig, D. 2011. "The Embers of Allah: Cosmologies, Knowledge, and Relations in the Mountains of Central Bosnia." PhD diss., Durham University.
- Holtzman, J. 2004. "The Local in the Local: Models of Time and Space in Samburu District, Northern Kenya." *Current Anthropology* 45 (1): 61–84.
- Holy, L. 1984. "Theory, Methodology and the Research Process." In *Ethnographic Research: A Guide to General Conduct, ASA Research Methods in Social Anthropology*, vol. 1, edited by R. F. Ellen, 13–34. London: Academic Press.
- Ihsan, M. S. 1992. *Systematic Social Change and Pakistan*. Lahore: Progressive Publishers.
- Kennedy, E. S., S. Engle, and J. Wamstad. 1965. "The Hindu Calendar as Described in Al-Bīrūnī's Masudic Canon." *Journal of Near Eastern Studies* 24 (3): 274–284.
- Kumar, R. 1999. *Research Methodology: A Step-by-Step Guide for Beginners*. London: Sage Publications.
- Lyon, S. M. 2004. *An Anthropological Analysis of Local Politics and Patronage in a Pakistani Village*. Lampeter: Edwin Mellen Press.
- Lyon, S. M. 2012. "Conceptual Models of Nature in Pakistan." In *Proceeding of the Workshop: Cultural Models of Nature and the Environment: Self, Space, and Causality, 1–4 September 2011*, edited by G. Bennardo, 29–34. Dekalb: Institute for the Study of the Environment, Sustainability, and Energy, Northern Illinois University.
- Malik, I. 2008. *The History of Pakistan*. Westport, CT: Greenwood Press.
- McComb, D. G. 2008. *Spare Time in Texas: Recreation and History in the Lone Star State*. Austin, TX: University of Texas Press.
- McIntosh, J. R. 2008. *The Ancient Indus Valley: New Perspectives*. Santa Barbara, CA: ABC-CLIO.
- Mughal, M. A. Z. 2008. "It will Take Time for Time to Change: A Temporal Documentary of Change in Sarwar Aali." *Omertaa: Journal for Applied Anthropology* 2008: 342–349. <http://www.omertaa.org/archive/omertaa0044.pdf>
- Mughal, M. A. Z. 2009. "Time, Absolute." In *Encyclopedia of Time: Science, Philosophy, Theology, and Culture*, vol. 3, edited by H. J. Birx, 1254–1255. Thousand Oaks, CA: Sage Publications.
- Mughal, M. A. Z. 2012. "Temporal Rhythm of Change in Village Jhokwala, Pakistan: Ethnographic Insights from Calendars." In *Proceeding of the Workshop: Cultural Models of Nature and the Environment: Self, Space, and Causality, September 1–4, 2011*, edited by G. Bennardo, 61–65. Dekalb: Institute for the Study of the Environment, Sustainability, and Energy, Northern Illinois University.
- Mughal, M. A. Z. 2014. "Time, Space and Social Change in Rural Pakistan: An Ethnographic Study of Jhokwala Village, Lodhran District." PhD diss., Durham University.
- Munn, N. D. 1992. "The Cultural Anthropology of Time: A Critical Essay." *Annual Reviews in Anthropology* 21: 93–123.
- Murphy, R. M. 2001. "Performing Partition in Lahore." In *The Partitions of Memory: The Afterlife of the Division of India*, edited by S. Kaul, 183–207. New Delhi: Permanent Black.
- Nesbitt, E. 2004. *Intercultural Education: Ethnographic and Religious Approaches*. Brighton: Sussex Academic Press.

- Niazi, A. 2012. "Expressions of Modernity in Rural Pakistan: Searching for Emic Perspectives." PhD diss., Oregon State University.
- Ohnuki-Tierney, E. 1969. "Concepts of Time among the Ainu of the Northwest Coast of Sakhalin." *American Anthropologist* 71 (3): 488–492.
- Orans, M. 1968. "Maximizing in Jajmaniland: A Model of Caste Relations." *American Anthropologist (N.S.)* 70 (5): 875–897.
- Penprase, B. E. 2010. *The Power of Stars: How Celestial Observations have Shaped Civilization*. New York: Springer.
- Porter, V., ed. 2012. *Hajj: Journey to the Heart of Islam*. Cambridge, CA: Harvard University Press.
- Richards, E. G. 1998. *Mapping Time: The Calendar and its History*. Oxford: Oxford University Press.
- Sachau, E. C. [1910] 2007. *Alberuni's India: An Account of the Religion, Philosophy, Literature, Geography, Chronology, Astronomy, Customs, Laws and Astrology of India about AD 1030*. New Delhi: Low Price Publications.
- Sagar, K. C. 1992. *Foreign Influence on Ancient India*. New Delhi: Northern Book Centre.
- Sathar, Z. A., and M. F. Kiani. 1998. "Some Consequences of Rising Age at Marriage in Pakistan." *The Pakistan Development Review* 37 (4, Part II): 541–556.
- Schielke, S. 2009. "Being Good in Ramadan: Ambivalence, Fragmentation, and the Moral Self in the Lives of Young Egyptians." *Journal of the Royal Anthropological Institute* 15 (S1): S24–S40.
- Selby, M. A. 2003. *The Circle of Six Seasons*. New Delhi: Penguin.
- Sutton, J. 2010. *The East India Company's Maritime Service, 1746–1834: Masters of Eastern Seas*. Woodbridge: The Boydell Press.
- Tapper, N., and R. Tapper. 1987. "The Birth of the Prophet: Ritual and Gender in Turkish Islam." *Man (N.S.)* 22 (1): 69–92.
- Weiss, A. M., and M. A. Z. Mughal. 2012. "Pakistan." In *Berkshire Encyclopedia of Sustainability*, vol. 9, edited by L. Kotzé and S. Morse, 236–240. Great Barrington, MA: Berkshire Publishing.