

The Mathematical Analysis on the Terror Caused Fatalities in Provinces of Pakistan 2011-2013

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Abstract: In 2011, Osama Bin Laden was killed by U.S. forces in Pakistan¹, and then the security situation in Pakistan suffered even more severe challenges. Although the security situation in Pakistan was very bad, but in each provinces of Pakistan, the performances of security situation were not the same, and the Fatality toll in each province of Pakistan had a big gap. This article will apply mathematical analysis on the Fatality toll of civilians, security forces and terrorists in each province of Pakistan from 2011 to 2013, so that get a precise evaluation of the security situation in each province of Pakistan. So we can find out the important factors influencing the security situation in each province, and then think about how to improve the security situation in each province of Pakistan, and then to improve the security situation in whole Pakistan.

Key words: Pakistan; Terror; Fatalities; Provinces; Mathematical analysis

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¹ Pakistan has four provinces, Punjab province, Sindh province, Balochistan province and Khyber-Pakhtunkhwa province (formerly Northwest Frontier province). Pakistan also has some federally administered areas. They are the federally administered tribal areas, and have provincial level status. Pakistan also has reign the Gilgit-Baltistan (formerly known as the Northern Area) and Azad Kashmir. Because these two regions belong to the Jammu and Kashmir, which was disputed areas between India and Pakistan, so this article would not discuss these two regions. The provincial administrative divisions of Pakistan in this article include Punjab province, Sindh province, Balochistan province, Khyber-Pakhtunkhwa province and federally administered tribal areas.

1. INTRODUCTION

Since Pakistan joined the U.S. led war on terror, Pakistan security situation began to deteriorate. In 2009, the Pakistan army launched two armed operations to clean up the Tehrik-e-Taliban Pakistan in Federally Administered Tribal Areas and North West Frontier province, Pakistan security situation became even worse. The Pakistan army wants to wipe out the Tehrik-e-Taliban Pakistan. So, the Tehrik-e-Taliban Pakistan launched large-scale terrorist attacks on the Pakistan army, the government buildings, police and civilian targets. In 2011, Osama Bin Laden was killed by U.S. forces in Pakistan, and then the security situation in Pakistan suffered even more severe challenges. Although the security situation in Pakistan was very bad, but in each provinces of Pakistan, the performances of security situation were not the same, and the Fatality toll in each provinces of Pakistan had a big gap. This article will analyze the Fatality toll of civilians, security forces and terrorists in each provinces of Pakistan from 2011 to 2013, so that get a precise evaluation on the security situation in each provinces of Pakistan. Based on the accurate evaluation of the security situation in each province of Pakistan, we can find out the important factors influencing the security situation in each province, and then think about how to improve the security situation in each province of Pakistan, and then to improve the security situation in whole Pakistan. If Pakistan could improve the security situation of Pakistan, Pakistan is likely to win the final victory in the struggle against terrorism.

2. PUNJAB PROVINCE

Although some terrorist attacks took place in Punjab province, but the its overall security environment is relatively good. Punjab province in 2013, security force continued to confront terrorist groups, including the Punjabi Taliban, and Lashkar I Jhangvi, all of whom mounted attacks against police, military and security forces, or engaged in sectarian violence and criminal activities against all sectors of society. (“United States Department of State” □ para 5, 2014, pp.194-195).

By Statistics 1 and three figures we know, Punjab province in 2011, 110 civilians, 19 security forces and 8 terrorists lost their lives.

Punjab province in 2012, 59 civilians, 29 security forces and 16 terrorists lost their lives. Fatalities of civilians are 46% lower than last year. Fatalities of security forces are 53% higher than last year. Fatalities of terrorists are 100% higher than last year.

Punjab province in 2013, 64 civilians, 7 security forces and 10 terrorists lost their lives. Fatalities of civilians are 8% higher than last year. The fatalities of security forces are 76% lower than last year. The fatalities of terrorists are 38% lower than last year.

And the fatalities of civilians in 2013 are 42% lower than 2011’s figure. The fatality numbers of security forces in 2013 are 63% lower than 2011. The fatality numbers of terrorists in 2013 are 25% higher than 2011.

Punjab province in 2011, the fatalities of civilians are 479% higher than the fatalities of security forces. The fatalities of civilians are 1275% higher than the fatalities of terrorists. The fatalities of security forces are 138% higher than the fatalities of terrorists.

Punjab province in 2012, the fatalities of civilians are 103% higher than the fatalities of security forces. This number is only 22% in the last year. This talks about the fatalities of civilians decrease much higher than the fatalities of security forces. The fatalities of civilians are 269% higher than the fatalities of terrorists. This number is only 21% to the last year. This talks about the fatalities of civilians decrease much higher than the fatalities of

terrorists. The fatalities of security forces are 81% higher than the fatalities of terrorists. This number is only 59% in the last year. This talks about the fatalities of security forces decrease a little higher than the fatalities of terrorists.

Punjab province in 2013, the fatalities of civilians are 814% higher than the fatalities of security forces. This number is 690% higher than the last year. This talks about the fatalities of civilians increase much higher than the fatalities of security forces. The fatalities of civilians are 540% higher than the fatalities of terrorists. This number is 101% higher than the last year. This talks about the fatalities of civilians increase much higher than the fatalities of terrorists. The fatalities of security forces are 30% lower than the fatalities of terrorists. This number is decrease 111% in the last year. This talks about the fatalities of security forces to decrease much higher than the fatalities of terrorists.

Table 1
Terror Caused Fatalities in Punjab Province 2011-2013

| Year | Civilians | Security forces | Terrorists |
|-------|-----------|-----------------|------------|
| 2011 | 110 | 19 | 8 |
| 2012 | 59 | 29 | 16 |
| 2013 | 64 | 7 | 10 |
| Total | 233 | 55 | 34 |

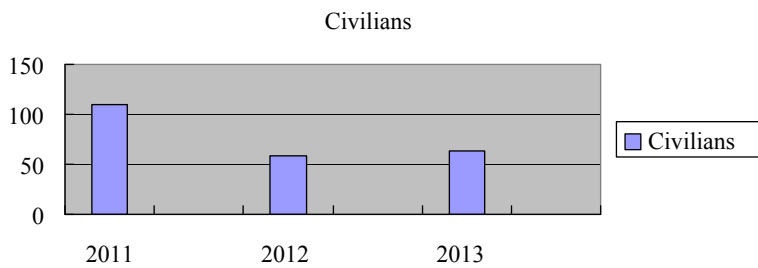


Figure 1
Terror Caused Civilian Fatalities in Punjab Province in 2011-2013

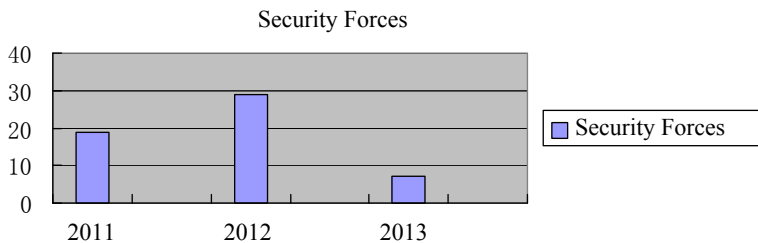


Figure 2
Terror Caused Security Force Fatalities in Punjab Province in 2011-2013

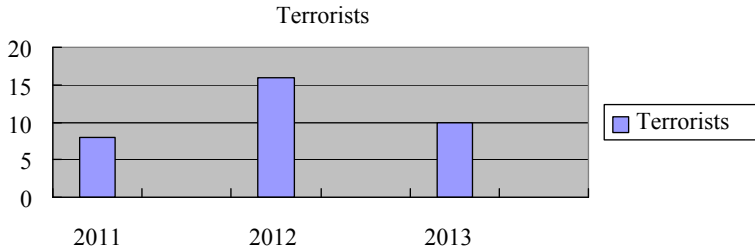


Figure 3
Terror Caused Terrorist Fatalities in Punjab Province in 2011-2013

(Data source: <http://www.satp.org/satporgtp/countries/pakistan/database/index.html>)

3. SINDH PROVINCE

A large number of terrorist attacks, sectarian killing and political assassination occurred in Sindh province. These led to the very heavy civilian casualties. Sindh province in 2011, a deluge of politically and ethnically motivated targeted killings took place in Karachi. (“United States Department of State”, para 5, 2012, p.141)

Sindh province in 2012, Shia minority continued to be targeted in large-scale sectarian attacks in Karachi. Targeted killings of both Shia and Sunni activists took place in Karachi. The TTP claimed credit for some sectarian attacks during the Shia holiday of Moharram, although increased levels of security prevented many TTP-planned suicide attacks on Shia processions and mosques. (“United States Department of State”, para 5, 2013, pp.166-167)

Sindh province in 2013, Karachi continued to suffer from political and ethnic violence inflicted by different groups, including militant organizations, fundamentalist religious groups, and the militant wings of political parties. Some militant groups worked to assert control over political parties and criminal gangs operating in the city and surrounding areas of southern Sindh Province. (“United States Department of State”, para 5, 2014, pp.194-195)

By Statistics 2 and three figures we know, Sindh Province in 2011, 1,082 civilians, 61 security forces and 68 terrorists lost their lives.

Sindh province in 2012, 1,318 civilians, 118 security forces and 117 terrorists lost their lives. Fatalities of civilians are 22% higher than last year. Fatalities of security forces are 93% higher than last year. Fatalities of terrorists are 72% higher than last year.

Sindh province in 2013, 1,285 civilians, 156 security forces and 227 terrorists lost their lives. The fatalities of civilians are 3% lower than last year. Fatalities of security forces are 32% higher than last year. The fatalities of terrorists are 94% higher than last year.

And the fatality numbers of civilians in 2013 are 19% higher than 2011. The fatality numbers of security forces in 2013 are 156% higher than 2011. The fatality numbers of terrorists in 2013 are 234% higher than 2011.

Sindh province in 2011, the fatalities of civilians are 1,674% higher than the fatalities of security forces. The fatalities of civilians are 1,491% higher than the fatalities of terrorists. The fatalities of security forces are 10% lower than the fatalities of terrorists.

Sindh province in 2012, the fatalities of civilians are 1,017% higher than the fatalities of security forces. This number is 61% to the last year. This talks about the fatalities of civilians decrease a little higher than the fatalities of security forces. The fatalities of civilians are 1026% higher than the fatalities of terrorists. This number is 69% to the last

year. This talks about the fatalities of civilians a little higher than the fatalities of terrorists. The fatalities of security forces are 101% higher than the fatalities of terrorists. This number is 11% higher than the last year. This talks about the fatalities of security forces increase a little higher than the fatalities of terrorists.

Sindh province in 2013, the fatalities of civilians are 724% higher than the fatalities of security forces. This number is 29% lower than the last year. This talks about the fatalities of civilians decrease a little higher than the fatalities of security forces. The fatalities of civilians are 466% higher than the fatalities of terrorists. This number is 55% lower than the last year. This talks about the fatalities of civilians decrease a little higher than the fatalities of terrorists. The fatalities of security forces are 31% lower than the fatalities of terrorists. This number is decrease 32% in the last year. This talks about the fatalities of security forces to decrease much higher than the fatalities of terrorists.

Table 2
Terror Caused Fatalities in Sindh Province in 2011-2013

| Year | Civilians | Security forces | Terrorists |
|-------|-----------|-----------------|------------|
| 2011 | 1082 | 61 | 68 |
| 2012 | 1318 | 118 | 117 |
| 2013 | 1285 | 156 | 227 |
| Total | 3685 | 335 | 412 |

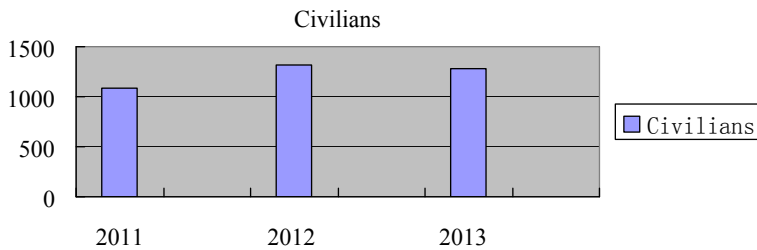


Figure 4
Terror Caused Civilian Fatalities in Sindh Province in 2011-2013

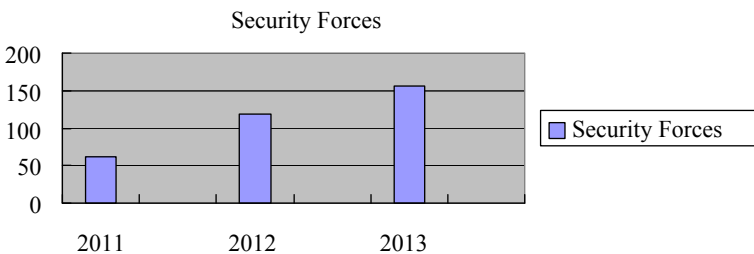


Figure 5
Terror Caused Security Force Fatalities in Sindh Province in 2011-2013

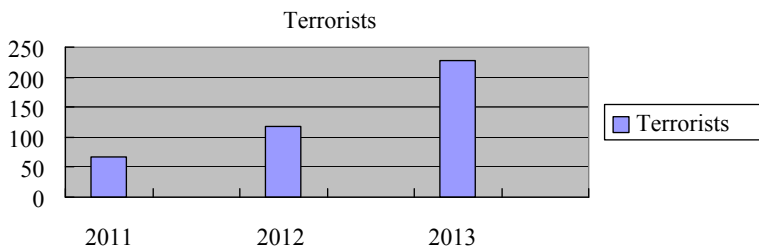


Figure 6
Terror Caused Terrorist Fatalities in Sindh Province in 2011-2013
 (Data source: <http://www.satp.org/satporgtp/countries/pakistan/database/casualties.htm>)

4. KHYBER-PAKHTUNKHWA PROVINCE

Khyber-Pakhtunkhwa province is the front-line of the war on terror in Pakistan. The security forces fight hard to clear terrorists, led to the security forces and terrorists both suffered heavy casualties. Terrorist attacks resulted in heavy civilian casualties. Khyber-Pakhtunkhwa province in 2011, Pakistani security forces conducted substantial counter terrorism operations in Khyber-Pakhtunkhwa province that resulted in the death or detention of many militants. (“United States Department of State”, para 5, 2012, p.141)

Khyber-Pakhtunkhwa province in 2012, Shia minority continued to be targeted in large-scale sectarian attacks in Khyber-Pakhtunkhwa province. Despite the government’s stringent security measures, including a ban on both cell phone usage and motorbikes, a series of four major bombings in Dera Ismail Khan marred the Moharram religious week. (“United States Department of State”, para 5, 2013, pp.166-167)

By Statistics 3 and three figures we know, Khyber-Pakhtunkhwa province in 2011, 511 civilians, 331 security forces and 164 terrorists lost their lives.

Khyber-Pakhtunkhwa province in 2012, 363 civilians, 98 security forces and 195 terrorists lost their lives. The fatalities of civilians are 29% lower than last year. The fatalities of security forces are 70% lower than last year. The fatalities of terrorists are 19% higher than last year.

Khyber-Pakhtunkhwa province in 2013, 603 civilians, 172 security forces and 161 terrorists lost their lives. Fatalities of civilians are 66% higher than last year. The fatalities of security forces are 76% lower than last year. The fatalities of terrorists are 17% lower than last year.

And fatalities of civilians in 2013 are 18% higher than 2011’s figure. The fatality numbers of security forces in 2013 are 48% lower than 2011. The fatality numbers of terrorists in 2013 are 2% lower than 2011.

Khyber-Pakhtunkhwa province in 2011, the fatalities of civilians are 54% higher than the fatalities of security forces. The fatalities of civilians are 40% higher than the fatalities of terrorists. The fatalities of security forces are 9% lower than the fatalities of terrorists.

Khyber-Pakhtunkhwa province in 2012, the fatalities of civilians are 270% higher than fatalities of security forces. This number is 500% in the last year. This talks about the fatalities of civilians decrease much lower than the fatalities of security forces. The fatalities of civilians are 86% higher than the fatalities of terrorists. This number is 215% in the last year. This talks about the fatalities of civilians decrease much lower than the fatalities of

terrorists. The fatalities of security forces are 50% lower than the fatalities of terrorists. This number is 41% higher than the last year. This talks about the fatalities of security forces to decrease much higher than the fatalities of terrorists.

Khyber-Pakhtunkhwa province in 2013, fatalities of civilians are 251% higher than the fatalities of security forces. This number is 19% lower than the last year. This talks about the fatalities of civilians increase a little lower than the fatalities of security forces. The fatalities of civilians are 275% higher than the fatalities of terrorists. This number is 189% higher than the last year. This talks about the fatalities of civilians increase much higher than the fatalities of terrorists. Fatalities of security forces are 7% higher than the fatalities of terrorists. This number is increase 57% in the last year. This talks about fatalities of security forces increase much higher than the fatalities of terrorists.

Tabel 3
Terror Caused Fatalities in Khyber-Pakhtunkhwa Province in 2011-2013

| Year | Civilians | Security forces | Terrorists |
|-------|-----------|-----------------|------------|
| 2011 | 511 | 331 | 364 |
| 2012 | 363 | 98 | 195 |
| 2013 | 603 | 172 | 161 |
| Total | 1477 | 601 | 720 |

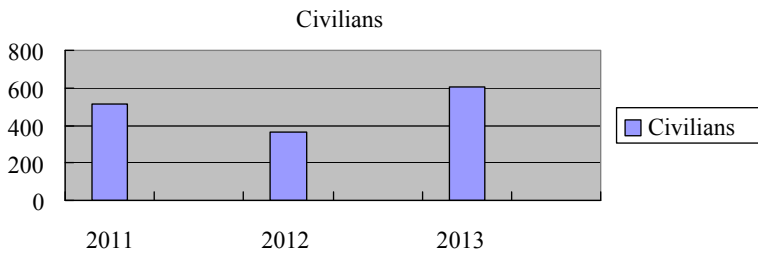


Figure 7
Terror Caused Civilian Fatalities in Khyber-Pakhtunkhwa Province in 2011-2013

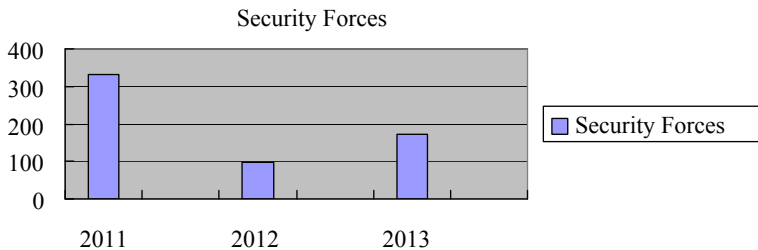


Figure 8
Terror Caused Security Force Fatalities in Khyber-Pakhtunkhwa Province in 2011-2013

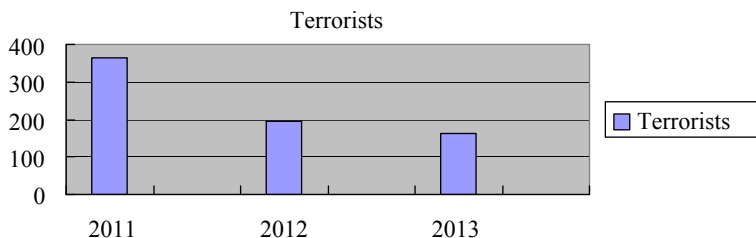


Figure 9
Terror Caused Terrorist Fatalities in Khyber-Pakhtunkhwa Province in 2011-2013

(Data source: <http://www.satp.org/satporgtp/countries/pakistan/database/casualties.htm>)

5. BALOCHISTAN PROVINCE

Northern Balochistan province is the frontline of the war on terror in Pakistan. The security forces fight hard to clear terrorists, led to the security forces and terrorists both suffered some casualties. Terrorist attacks led to heavy civilian casualties. And sectarian killing also made Balochistan province suffered too much casualties. Balochistan province in 2012, Shia minority continued to be targeted in large-scale sectarian attacks in Balochistan. (“United States Department of State”, para 5, 2013, pp.166-167)

By Statistics 4 and three figures we know, Balochistan province in 2011, 542 civilians, 122 security forces and 47 terrorists lost their lives.

Balochistan province in 2012, 690 civilians, 178 security forces and 86 terrorists lost their lives. Fatalities of civilians are 28% higher than last year. Fatalities of security forces are 46% higher than last year. Fatalities of terrorists are 83% higher than last year.

Balochistan province in 2013, 718 civilians, 137 security forces and 105 terrorists lost their lives. The fatalities of civilians are 4% higher than last year. The fatalities of security forces are 23% lower than last year. The fatalities of terrorists are 22% higher than last year.

And the fatalities of civilians in 2013 are 32% higher than 2011’s figure. The fatality numbers of security forces in 2013 are 12% higher than 2011. The fatality numbers of terrorists in 2013 are 23% higher than 2011.

Balochistan province in 2011, the fatalities of civilians are 344% higher than the fatalities of security forces. The fatalities of civilians are 1053% higher than the fatalities of terrorists. The fatalities of security forces are 160% higher than the fatalities of terrorists.

Balochistan province in 2012, the fatalities of civilians are 288% higher than the fatalities of security forces. This number is 84% in the last year. This talks about the fatalities of civilians increase a little slower than the fatalities of security forces. The fatalities of civilians are 702% higher than fatalities of terrorists. This number is 67% in the last year. This talks about the fatalities of civilians increase much slower than the fatalities of terrorists. The fatalities of security forces are 107% higher than the fatalities of terrorists. This number is 67% to the last year. This talks about the fatalities of security forces increase a little slower than the fatalities of terrorists.

Balochistan province in 2013, the fatalities of civilians are 424% higher than the fatalities of security forces. This number is 47% high than the last year. This talks about the fatalities of civilians increase a little higher than the fatalities of security forces. The fatalities of civilians are 584% higher than the fatalities of terrorists. This number is 17% lower than the last year. This talks about the fatalities of civilians increase a little higher than the fatalities of terrorists. The fatalities of security forces are 30% higher than the fatalities

of terrorists. This number is decrease 77% to the last year. This talks about the fatalities of security forces decrease much higher than the fatalities of terrorists.

Table 4
Terror Caused Fatalities in Balochistan Province in 2011-2013

| Year | Civilians | Security forces | Terrorists |
|-------|-----------|-----------------|------------|
| 2011 | 542 | 122 | 47 |
| 2012 | 690 | 178 | 86 |
| 2013 | 718 | 137 | 105 |
| Total | 1950 | 437 | 238 |

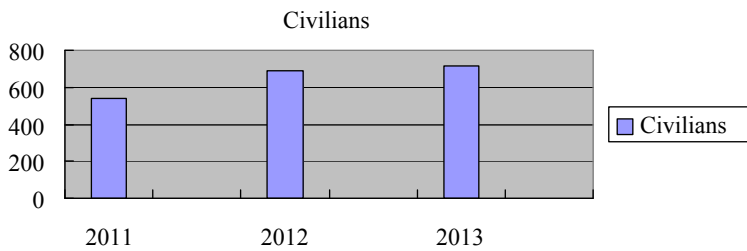


Figure 10
Terror Caused Civilian Fatalities in Balochistan Province in 2011-2013

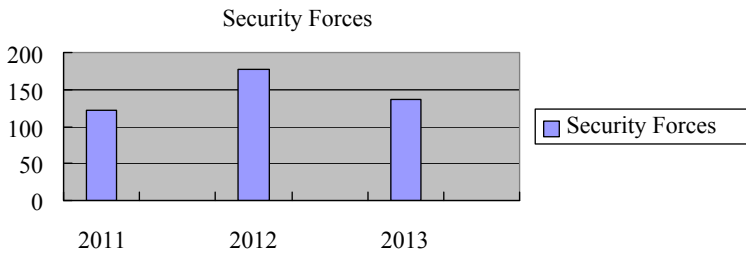


Figure 11
Terror Caused Security Force Fatalities in Balochistan Province in 2011-2013

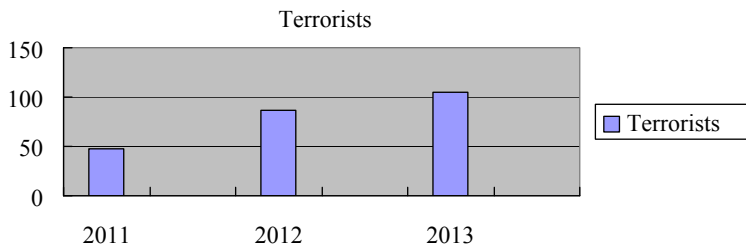


Figure 12
Terror Caused Terrorist Fatalities in Balochistan Province in 2011-2013

6. FEDERALLY ADMINISTERED TRIBAL AREAS (FATA)

FATA is the forefront of the war on terror in Pakistan. The security forces fight very hard to clear terrorists, led to the security forces and terrorists both suffered most heavy casualties in whole Pakistan. FATA in 2011, Pakistan security forces conducted substantial counterterrorism operations in Kurram, Mohmand, Orakzai and South Waziristan Agencies that resulted in the death or detention of thousands of militants. (“United States Department of State”, para 5, 2012, p.141)

By Statistics 5 and three figures we know, FATA in 2011, 488 civilians, 233 security forces and 2313 terrorists lost their lives.

FATA in 2012, 549 civilians, 306 security forces and 2046 terrorists lost their lives. The fatalities of civilians are 13% higher than last year. The fatalities of security forces are 31% higher than last year. The fatalities of terrorists are 12% lower than last year.

FATA in 2013, 319 civilians, 198 security forces and ,1199 terrorists lost their lives. The fatalities of civilians are 42% lower than last year. The fatalities of security forces are 35% lower than last year. The fatalities of terrorists are 41% lower than last year.

And the fatalities of civilians in 2013 are 35% lower than 2011’s figure. The fatality numbers of security forces in 2013 are 15% lower than 2011. The fatality numbers of terrorists in 2013 are 48% lower than 2011

FATA in 2011, the fatalities of civilians are 109% higher than the fatalities of security forces. The fatalities of civilians are 79% lower than the fatalities of terrorists. The fatalities of security forces are 90% lower than the fatalities of terrorists.

FATA in 2012, the fatalities of civilians are 79% higher than the fatalities of security forces. This number decrease 30% to the last year. This talks about the fatalities of civilians increase a little slower than the fatalities of security forces. The fatalities of civilians are 73% lower than the fatalities of terrorists. This number decrease 6% to the last year. This talks about the fatalities of civilians increase a little higher than the fatalities of terrorists. The fatalities of security forces are 85% lower than the fatalities of terrorists. This number decrease a little to the last year. This talks about the fatalities of security forces increase a little higher than the fatalities of terrorists.

FATA in 2013, the fatalities of civilians are 61% higher than the fatalities of security forces. This number decrease 16% than the last year. This talks about the fatalities of civilians decrease a little higher than the fatalities of security forces. The fatalities of civilians are 73% lower than the fatalities of terrorists. This number is the same to the last year. This talks about the fatalities of civilians and the fatalities of terrorists change at the same speed. The fatalities of security forces are 83% lower than the fatalities of terrorists. This number is decrease 2% to the last year. This talks about the fatalities of security forces decrease a little higher than the fatalities of terrorists.

Table 5
Terror Caused Fatalities in Federally Administered Tribal Areas in 2011-2013

| Year | Civilians | Security forces | Terrorists |
|-------|-----------|-----------------|------------|
| 2011 | 488 | 233 | 2313 |
| 2012 | 549 | 306 | 2046 |
| 2013 | 319 | 198 | 1199 |
| Total | 1356 | 737 | 5558 |

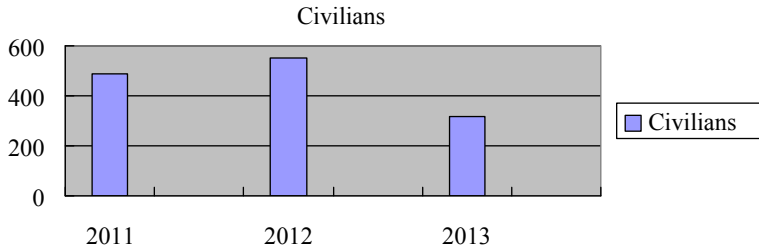


Figure 13
Terror Caused Civilian Fatalities in Federally Administered Tribal Areas in 2011-2013

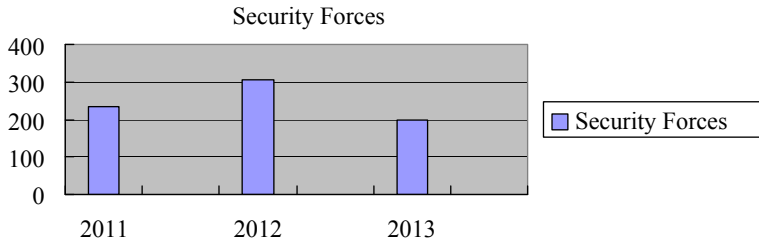


Figure 14
Terror Caused Security Force Fatalities in Federally Administered Tribal Areas in 2011-2013

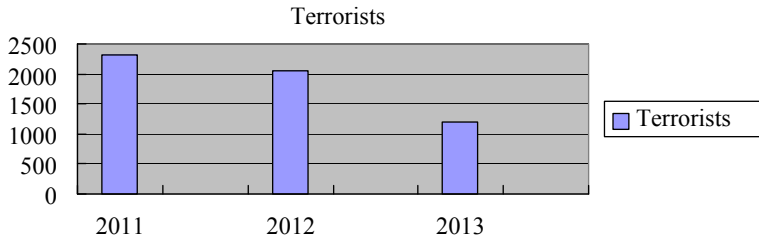


Figure 15
Terror Caused Terrorist Fatalities in Federally Administered Tribal Areas in 2011-2013

7. CONCLUSION

By Statistics 1 to 5 we know, in each provinces of Pakistan from 2011 to 2013, the maximum of the totally fatalities of civilians is 3,685 in Sindh province. And the minimum of the totally fatalities of civilians is 233 in Punjab province. The former is 1482% higher than the latter. The maximum of the totally fatalities of security forces is 737 in FATA. And the minimum of the totally fatalities of security forces is 55 in Punjab province. The former is 1240% higher than the latter. The maximum of the totally fatalities of terrorists is 5,558 in FATA. And the minimum of the totally fatalities of terrorists is 34 in Punjab province. The former is 16247% higher than the latter.

On the whole, the safest province is Punjab province. All the three fatality number in Punjab province is lower in Pakistan. To civilians, the most dangerous province is Sindh province. And the war on terror in FATA is most drastic. And this made the highest fatalities of security forces and terrorists. So Pakistan government should prevent the terrorism attack unceasingly extend to Punjab province, and protect the civilians in Sindh province from city violence, then go on its war on terror in Balochistan Province, Khyber-Pakhtunkhwa

province and Federally Administered Tribal Areas. If Pakistan government could accomplish all these tasks, it would have more chance to win the final victory in the war on terror.

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