

Annual Gas Production and Consumption, 2012-13

HYDROCARBON Unit

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Ministry of Power, Energy and Mineral Resources

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Introduction:

In 2012-13 fiscal year total production of gas logged 811 Bscf and in MMcfd daily average production was 2222 MMcfd. During the year well wise maximum daily gas production was 117.4 MMcfd . Well wise minimum gas production was 3.24 MMcfd. During the two Eid holidays gas consumption is significantly reduced. In figure 1 and 2 significant reduction in gas production during two Eid holidays can be observed (Figure 1, 2, 4 and 5.

During the year some of the wells were shut down. At the same time a number of new wells were open for production. Rate of increase in production over the year was quite low. In 2011-12 fiscal year total gas production was 749 MMcfd and this equals to 2045MMcfd.

In 2012-13 annual increase in gas production was 177 MMcfd. Annual gas production in 2012-13 logged 2222 MMcfd. Total producing wells was 20. Gas production is largely depended on Bibiyana, Titas, Jalalabad and Habiganj gas fields. This four gas fields provided 84 percent (1707 MMcfd) of total production.

According to Gustavson Associates in 2012-13 gas demand could be 2565 MMcfd under most likely gas demand scenario. In case of low gas demand, this volume could be 2416 MMcfd. Actual production was below the projected minimum gas demand.

During the year 77 wells in 20 gas fields were flowing. However during the year a number of wells were shut down. On the other hand new wells were added to the production stream. At the end of the year 81 wells were flowing. During the year national companies produced 367 Bscf gas from 54 wells. Minimum production was recorded from Shahbazpur gas field (7.2 MMcfd). Srikail gas field was open for production in the middle of March, 2013. During this period (3 1/ months) average daily production from Srikail gas field was 24.8 MMcfd.

Chevron, Tullow Oil and Santos, these three international companies remained active during the period. IOCs production logged 395 Bscf which equals to 1083 MMcfd. At the beginning of the year IOC production was below 1200 MMcfd and this gradually increased with time and at the later part of the year production was above 1204 MMcfd. Sangu gas field is struggling and may shut down shortly. How this will have little effect in gas production.

Report on annual gas production of the year 2012-13 is prepared using daily gas and condensate production data. Information on gas and condensate production was received from the gas production companies. Information on gas purchase and sales is collected from MIS report (June 2013) of Petrobangla. Figure 1 shows daily well wise gas production in MMcfd. Field wise annual gas production in MMcfd is shown in Figure 2. Figure 3A shows field wise gas production in line graph. This is for convenience of readers Figure 4A and 3B compared field wise gas production in line graph. Low producing gas fields are shown in separate figure Fig 3B. Figure 4 compares daily gas production of national companies and IOCs.

In the current year four gas fields, Bibiyana, Titas, Jalalabad and Habiganj gas fields produced 592 Bscf gas and average production was 1622 MMcfd. Remaining 182 Bscf gas is produced by 12 gas fields (figure 2).

According to MIS report (2012-13)

Gas Production Summary:

Three national and three international companies remain active in production of gas. d. Well wise average daily gas production was 2222 MMcfd (811 Bscf) This is presented as Figure 1. Field wise gas production in MMcfd for the year is provided in Figure 2.

Figure 3A shows annual gas production (MMcfd) of all producing gas fields in line graph. For better understanding gas fields producing less than 55 MMcfd is included in figure 3B as Figure 3B. Figure 4 compares annual gas production in MMcfd by national and international companies. For better understanding total gas production is added to the figure 4. Company wise gas production is shown as figure 5. Figure 6 is based on field wise annual gas production in MMcfd.

According Gustavson Associates in 2012-13 gas demand could be 2535 MMcfd under most likely gas demand scenario. In case of low gas demand Gustavson considered gas demand at 2285 MMcfd.

During the year increase in gas production was 49 Bscf (139 MMcfd). Cumulative production on 31 June 2013 logged 11.4 Tscf. Figure 7 shows company wise condensate extraction in bbl/day. Field wise condensate recovery in bbl per day is shown as figure 8. Annual recovery of liquid (Condensate, Kerosene, Octane, NGL, MS, HSD and) is displayed in figure 10. Figure 9

Well wise minimum gas production was recorded at 0.7 MMcfd from Sangu well 1. Maximum well wise production was recorded from Bibiyana well 1 at 115 MMcfd.

Out of total production national companies share was 1001 MMcfd. Total production of national companies during the year was 365 Bscf . In the past year total production by national companies was 1079 MMcfd. 54 wells was open for production during the year.

During the year IOCs gas production logged 1186 MMcfd (433 Bscf). IOCs produced this volume of gas using 30 wells. During the year maximum gas production was recorded from Bibiyana Gas field. Table (Below) compares company wise gas production for 2012-13. .

MMcfd	SGFL	BGFCL	BAPEX	Chevron	Tullow	Sangu	Total
2012-13	154	100.4	77	1101	88	15.4	2222

Figure 7 shows field wise condensate recovery during the year. Maximum condensate recovery was 33023 bbl/day from Bibiyana gas field. Kailas Tila gas field occupied second position and daily condensate recovery was 748 bbl/day. Condensate recovery from Titas gas field was 447 bbl per day. In addition to condensate, NGL, Octane, Octane, Kerosene, HSD, and MS is recovered. Figure 8 shows condensate recovery arranged according to volume. Table below shows

Table below shows volume of liquid products in 1000 liter from well stream.

FY, BSCF	MS	HSDL	NGL	Condensate	SKO	Octane
2012-13	8027.7	6771	2584	34153	2928	1649

Figure 9 shows annual recovery of condensate, kerosene, octane, MS, HSD and NGL. In figure 10 condensate is removed to highlight the remaining liquid fraction.

Gas Production:

National Companies:

In 2012-13 fiscal year one E and P company (BAPEX) and two gas producing companies (BGFCL and SGFL) operating 15 gas fields in the country. During the year total production of national companies logged 375 Bsc, which equals to 1028 MMcfd. National companies produced through 55 wells Average well wise production was 18.7 MMcfd. Well wise maximum production was 41 MMcfd (Titas) and minimum production was 2.0 MMcfd. Condensate production logged 52.3 thousand bbl. Figure 12 shows daily gas production in MMcfd Figure 12 shows fieldwise gas production in MMcfd of national companies. Figure 13 displayed company wise (National Co) gas production in MMcfd. These companies are BGFCL, SGFL and BAPEX. Figure 14 shows field wise gas production in MMcfd.

The national companies produced 368 Bscfgas. Average daily production was 1007 MMcfd. Production was obtained through 54 wells. Maximum well wise production was recorded from well 7 and well 10. Average gas flow rate was 41 MMcfd. 41 MMcfd from Habiganj well # 7 and 10.

Bangladesh Petroleum Exploration and Production Co. Ltd. (BAPEX): BAPEX is the lone E and P company of Petrobangla. In 2012-13 fiscal year the company operated six gas fields i.e. Shahbazpur, Salda, Fenchuganj, Semutang, Sundalpur and Srikail gas fields. Sundalpur and Srikail are two discoveries by BAPEX. Geologically Bangura and Srikail could be a single anticline. Some study may be considered. Figure 15 shows field wise annual gas production in stack bar. Figure 16 shows annual gas production in pie graph. Total gas production during the year the company produced at an average rate of 100 MMcfd. Figure 6 shows well wise annual gas production in MMcfd. Field wise annual gas production is shown in Figure 16. During the year 2961 thousand liter condensate was recovered.

Fenchuganj gas field is the main gas producer of the company. In 2012-13 13. Average daily production was 51.8 MMcfd. Average daily production was within 17-19 MMcfd. In the middle of May well #2 (Lower Sand) was open for production. This increased field production to 38-39 MMcfd. Annual average gas production was 36 MMcfd. During the year 1828 thousand liter condensate was recovered.

Salda Nadi Gas Field: During the year two wells were producing. Average production was 15 MMcfd. Total production during the year was 5.5 Bscf. In addition 434 thousand liter condensate was recovered.

Salda gas field is a small gas field. This gas field is producing for quite some time. During 2012-13 fiscal year this gas field showed indication of pressure decline. During the year this field produced at an average rate of 16 MMcfd.

Shahbazpur Gas Field: Shahbazpur gas field is located in Shahbazpur i.e. Bhola island. Because of this gas supply is limited within the island. In 2012-13 this gas field produced at an average rate of 7.2 MMcfd and total production was 2.9 Bscf. Second well drilled to increase production. 1828 thousand liter condensate was also recovered during the year.

Semutang Gas Field; This gas field was discovered in 1970-71 Oil & Gas Development Corporation. After independence the area, including the discovered gas pool was awarded Shell Oil. Shell drilled another well. Shell left the country as the reward was not attractive for them. This field was awarded to BAPEX. This well was completed as a gas producer in December 2011. During 2012-13 fiscal year this field produced at an average rate of 8.9 MMcfd. Total production in the year was 3.3 Bscf. In addition to this 231 thousand litre condensate was also recovered.

Sundalpur Gas Field: This gas field was discovered by BAPEX in in 2011-12. In the s3ame year this gas field was brought into production in March 2011-12. During the current fiscal year this field produced at an average rate of 8.6 MMcfd. Total production during the year logged 2.4 Bscf. 24 thousand litre condensate was recovered.

Srikail Gas Field: Srikail gas field was discovery of BAPEX. This field was brought into production in on 14 May, 202. Average daily production was 7.5 MMcfd Figure 16) and total production was 2.7 Bscf. In addition to this 429 thousand condensate was also recovered. It may be mentioned here that geologically Srikail is part of Bangura structure. Tulllow is producing from this structure. A joint study on Srikail and Bangura can be initiated for better understanding of the structure.

Bangladesh Gas Fields Co. Ltd: This the second largest gas producer of the country. The company operates Titas, Habiganj, Bakhrabad, Narshingdi and Meghna gas fields. In 2012-13 the company produced 281 Bscf gas. Average daily production was 771 MMcfd. In term of gas reserve, Titas is the largest gas field of the country. During the year 257365 thousand liter liquid was recovered. MS, 65,716 thousand liter, 37324 thousand HSD and 957005 thousand liter condensate was recovered. Figure 17 shows field-wise gas production in 2012-13. Figure 18 shows fieldwise annual gas production.

Titas Gas Field is the largest gas field of the country and second largest gas producer. In 2012-13 this gas field produced at an average 468 MMcfd. Well wise maximum production was 40 MMcfd and minimum production was recorded at 6.5 MMcfd (well 10). In addition to gas, From this this fielded 78181 thousand liter liquid was recovered. This includes 13274 thousand liter MS, 37324 liter HSD and 27584 thousand liter re HSD and 21834 thousand liter condensate was recovered.

Habiganj Gas Field is the third largest gas field of the country. During the year Habiganj field produced 85 Bscf gas. Daily average production was 227 MMcfd. and total production was 84 Bscf. During the year production from well 1 and 2 was suspended due to water encroachment. It may be mentioned here that Habiganj reservoir is a strong water drive one. In such case recovery will will be less than that of an expansion drive reservoir.

Bakhrabad Gas Field: During the year this field 11.3 Bscf.2 This equals to daily average production rate of 30.9 MMcfd. During the period 13274 thousand liter MS, 37324 thousand liter HSD and 27584 thousand 74 110 MS, 37328 thousand MS, 12201 thousand liter HSD and 498 thousand liter condensate was recovered.

Narshingdi: During the year well 1 and 2 were flowing at an average rate of production was 17 and 12 MMcfd receptively. Total production was 310 . During the year 3490 thousand liter condensate was recovered.

Meghna Gas Field: During the year this field produced 3.7 Bscf and average gas production was 10 MMcfd. Gas production rate was quite stable. During the year 1102 thousand liter condensate was recovered.

Sylhet Gas Fields Ltd: This company operates four gas fields. Gas. During the year 62 Bscf gas was produced by SGFL. Average daily production was 158 MMCFD. During the year 78290 thousand liter MS, 45759 HSD, 29255 NGL, 63848 condensate, 25852 kerosene and 14362 octane. Unit is thousand liter. Brief description of the gas fields are provided below. It may be mention here that gas production stated in this part of the world from Sylhet gas field.

Kailas Tila gas field: This is the main producer of SGFL. During the year 57.9 Bsc f gas was produced. Average daily gas production was 88 MMcfd. During the year six wells were producing. In addition to gas, liquid product is also recovered. This gas field is quite wet and maximum recovery of liquid was achieved from this gas field. In the reported period 62740 thousand liter liquid was recovered. This include 9424 thousand liter MS, 8178 thousand liter HSD, 45591 thousand liter condensate, 29255 thousand liter NGL was recovered.

Rashidpur Gas Field: During the year 17.3 Bscf gas was produced. And daily average production was 48 MMcfd. Rashidpur gas is quite dry and 3430 thousand liter condensate was recovered.

Beani Bazar Gas Field: During the year 3.4 Bscf gas was produced. Average daily production was 9.2 MMcfd. During the same period 10524 thousand liter condensate was recovered.

Sylhet Gas Field: This is the oldest producing gas field of the country. Sylhet structure is known for first oil discovery of the country. During the year 3.4 Bscf gas was produced from yjios field. Average daily gas production 9.2 MMcfd. In addition to gas, 2906 thousand liter MS, 934 thousand liter kerosene and 4305 thousand liter condensate was also recovered.

International E and P Companies

Chevron, Tullow and Santos are three international oil and gas companies (IoC) operating in the country. During the year these three companies produced 443 Bscf gas. Average daily production was 1115 MMcfd. In average per well gas production of IoC wells is much higher than that of the national companies. IoC produce 1115 MMcfd using 28 wells. Average per well production of IoC well is 40 MMcfd. Maximum production was 117 MMcfd from Bibiyana well 1. During tye year 4485 thousand condensate was recovered by the IoCs. Average daily recovery of condensate was 12.3 thousand per day.

Chevron: This company is the largest producer of gas of the country. Chevron operates three gas fields i.e. Bibiyana, Jalalabad and Moulavi Bazar. It may be mentioned It may be mentioned that Bibiyana is the second largest gas field of the country and it is also the largest gas producer of the country. During the year Chevron produced 368 Bscf gas and average daily production was 1008 MMcfd. In addition to gas, this company producer 294,726 thousand liter condensate.

During the year **Bibiyana** Gas field Produced t 253 Bscf gas and average daily gas production was 692 MMcfd. In addition to gas, 194770 thousand liter condensate was also recovered.

Jalalabad is the second gas field operated by Chevron. In 2012-13 this field Jalalabad produced 230 MMcfd and total production during the year 10038 thousand liter condensate.

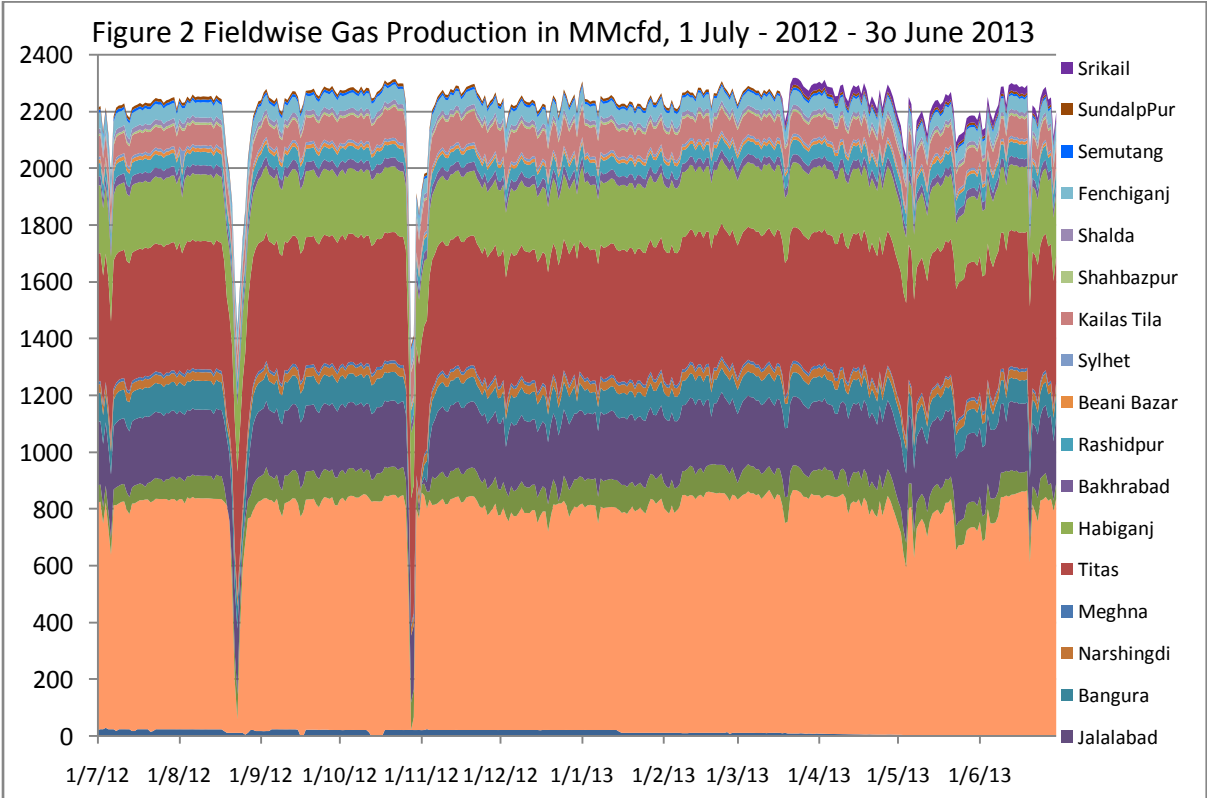
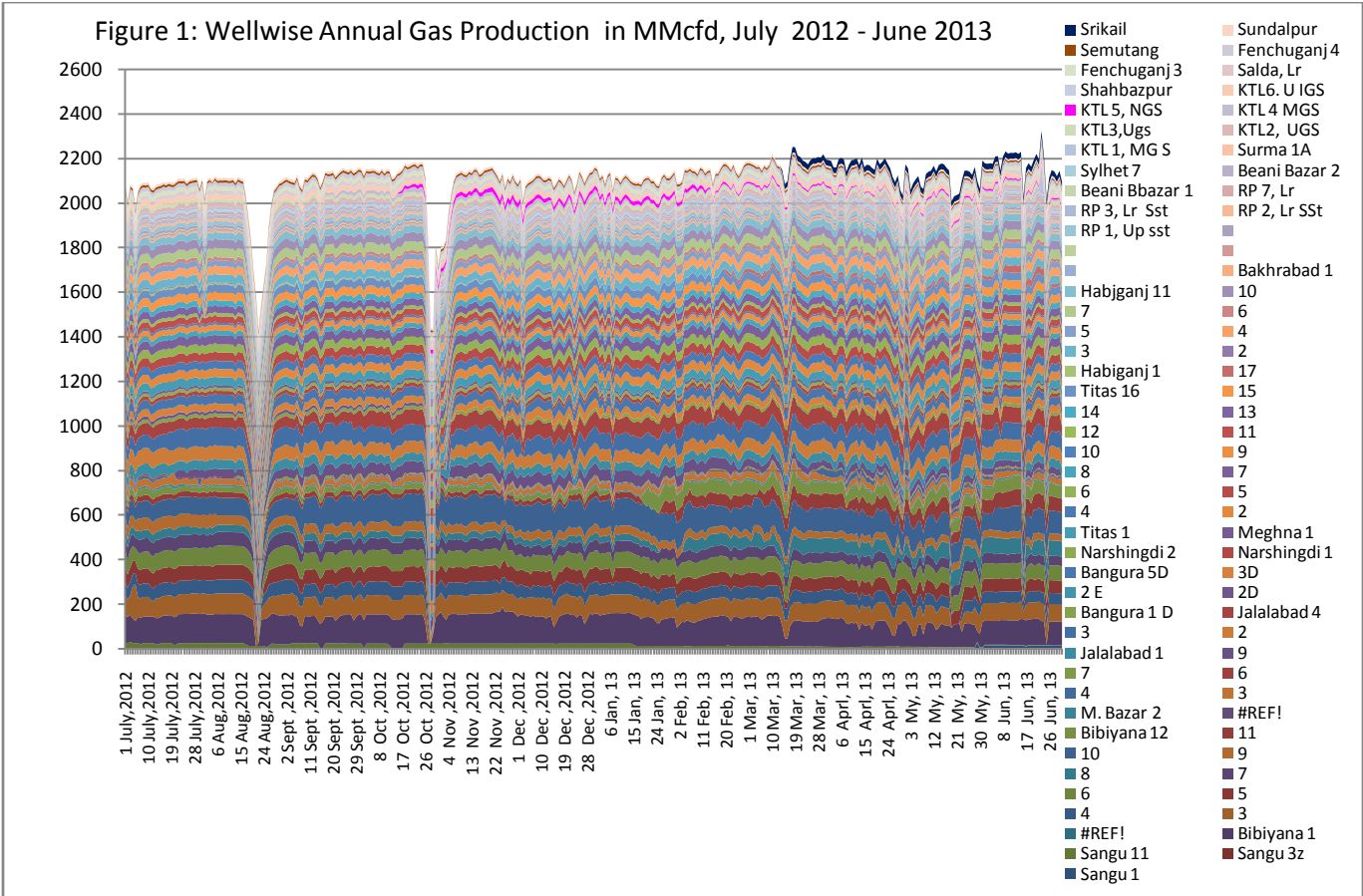
Moulavi Bazar gas field produced 30 Bscf gas average daily production was 86 MMcfd . In addition to gas, 918 thousand liter condensate was recovered.

Tullow Oil operates Bangura gas field. During reported year 32 Bscf gas was produced. Average daily production was 88.4 MMcfd . During the year condensate at an average rate was 99 bbl/day.

Sangu is the lone offshore gas field operated by Santos from Australia. During the year average daily production was 17.3 MMcfd and total production was 6.2 Bscf. Santos is struggling to maintain production.

Production and Supply: During the year gas production logged 764 Bscf and average daily production was 2093 MMcfd.

According to gas production data during the year total production logges 2222 MMcfd which rquals to 811 Bacf. 9 811 Bscf) 222 Mcfd MIS report gas production n logged 226696 MMCM. This equals to 22494 MMcm). According to MIS report gas sales total production was 226669 MMCM and this equals to 801 Bscf. During theyear



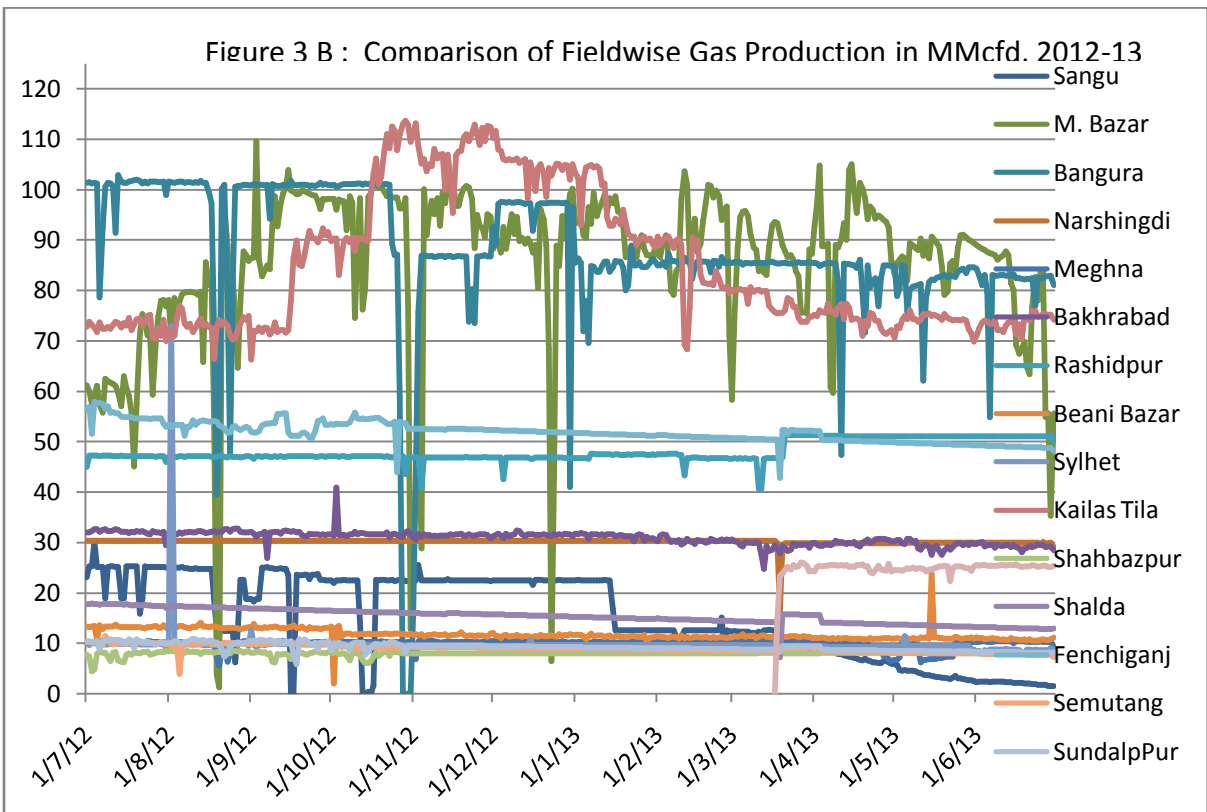
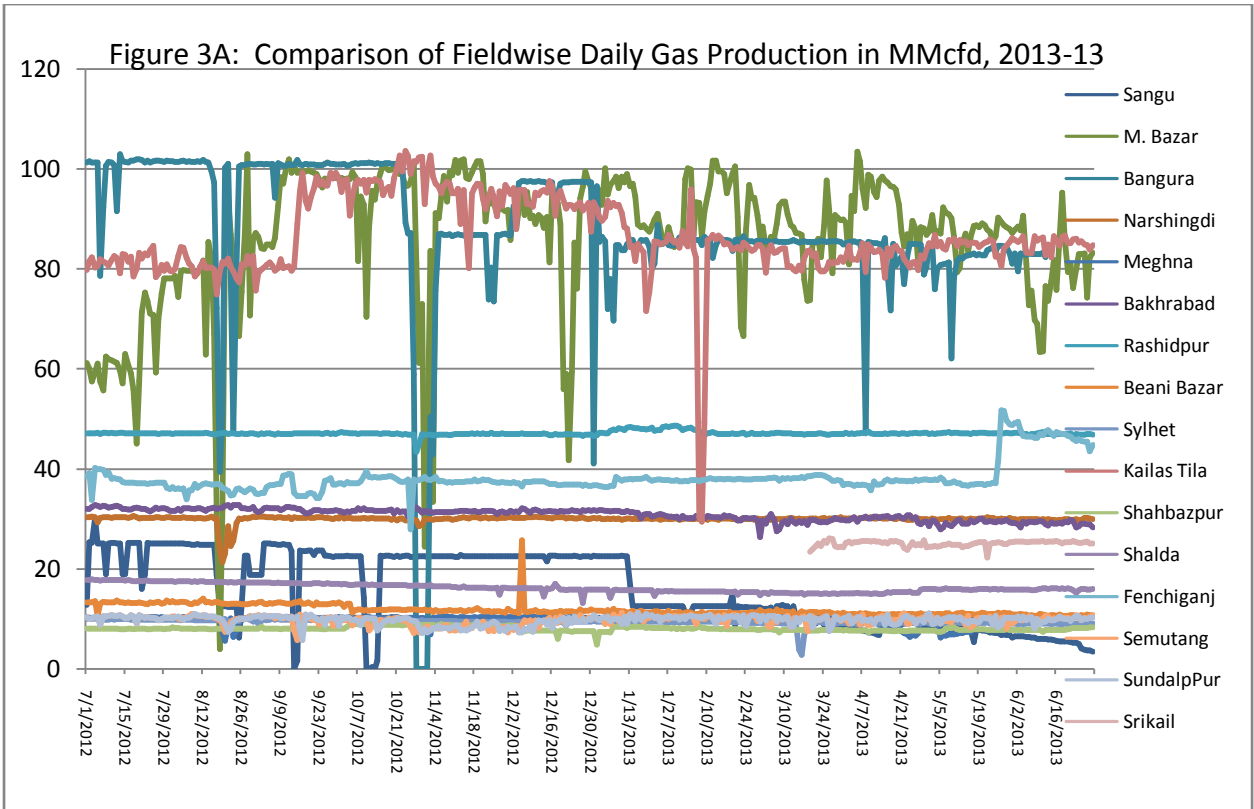


Figure 4: Contribution in Gas Production MMcfd by the National and International Companies. 2012-13

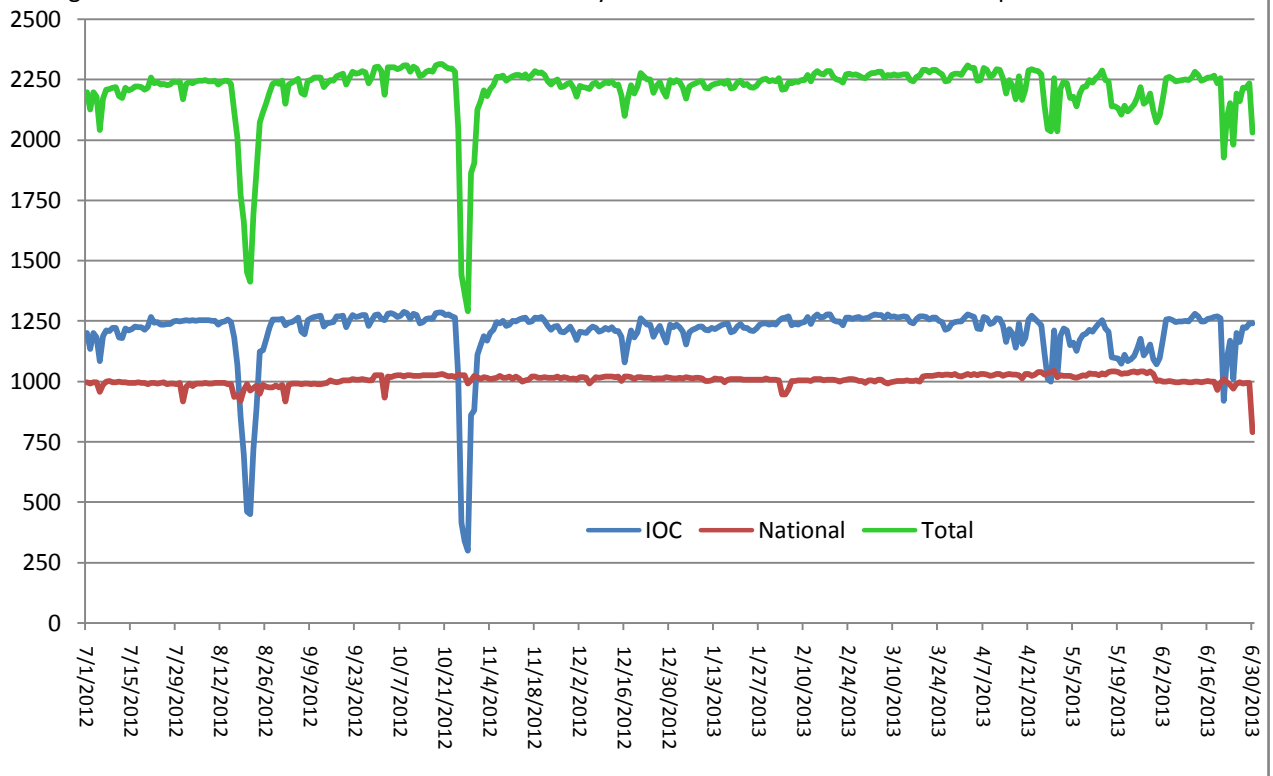


Figure 5: Four Major Gas Producer in MMcfd, 2012-13

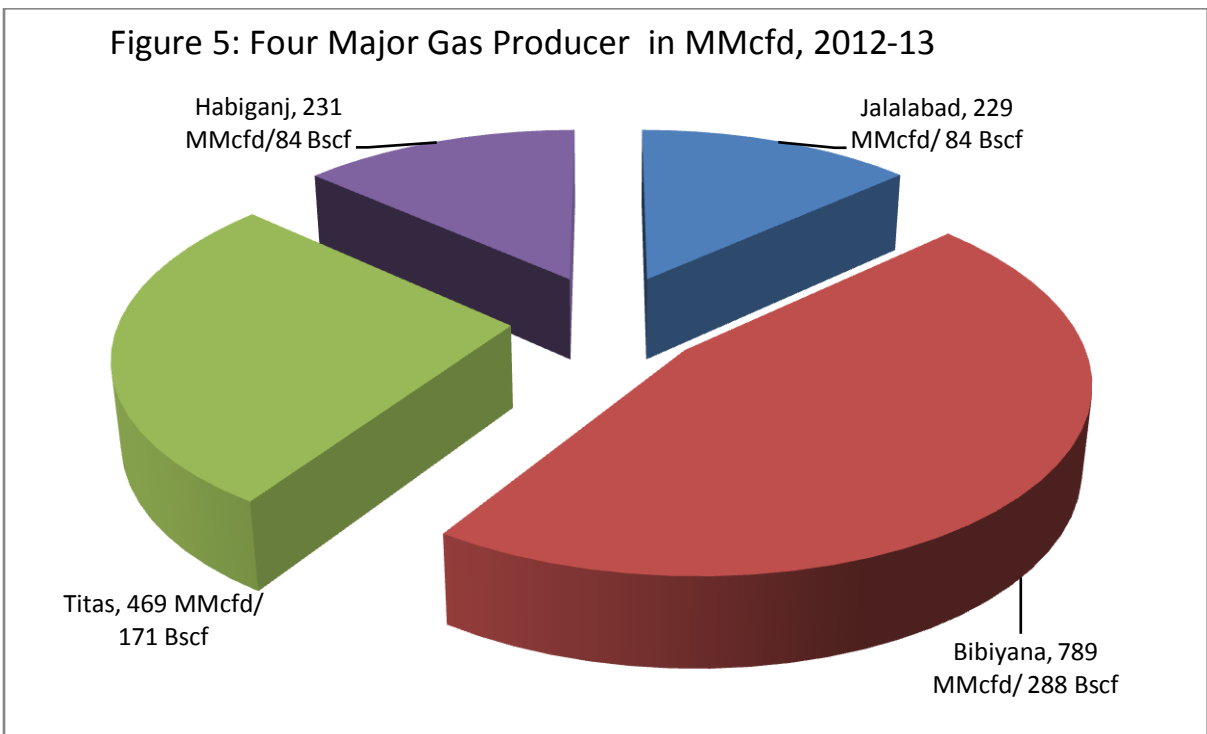


Figure 6: Company wise Gas Production in MMcfd/Bscf. 2012-13

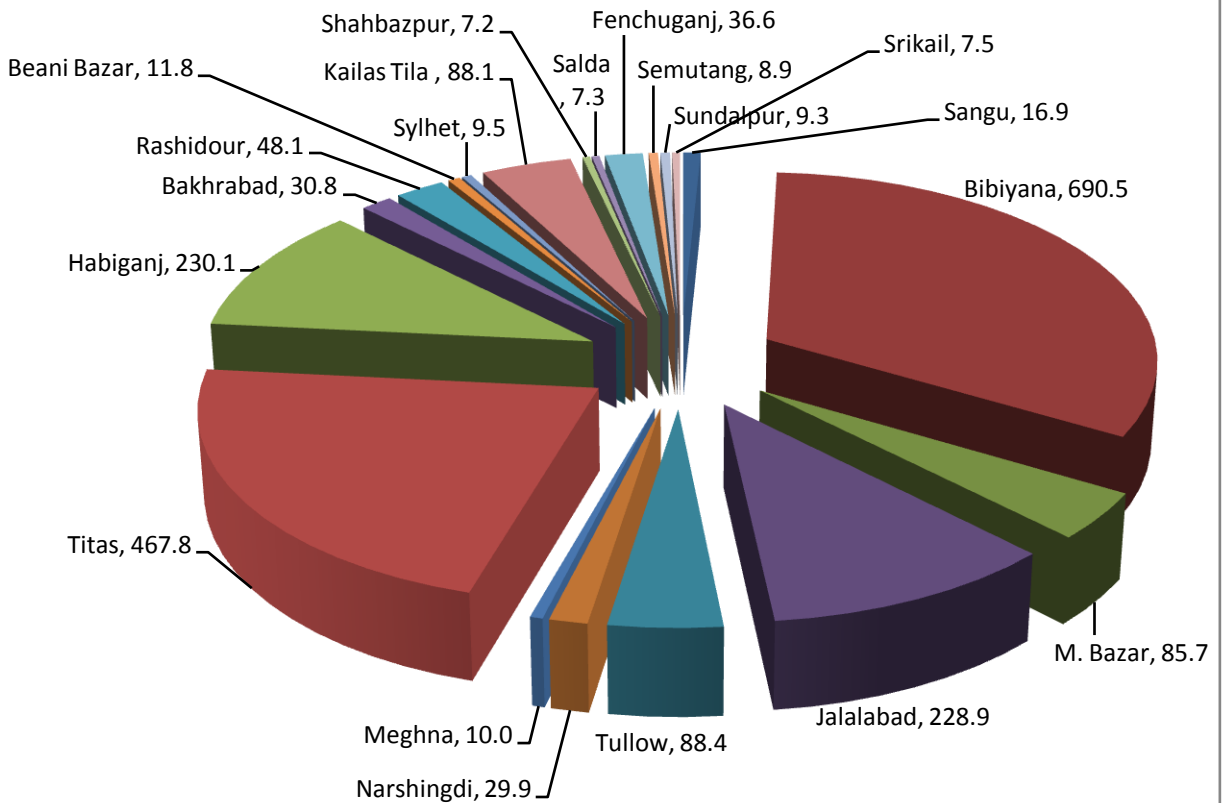
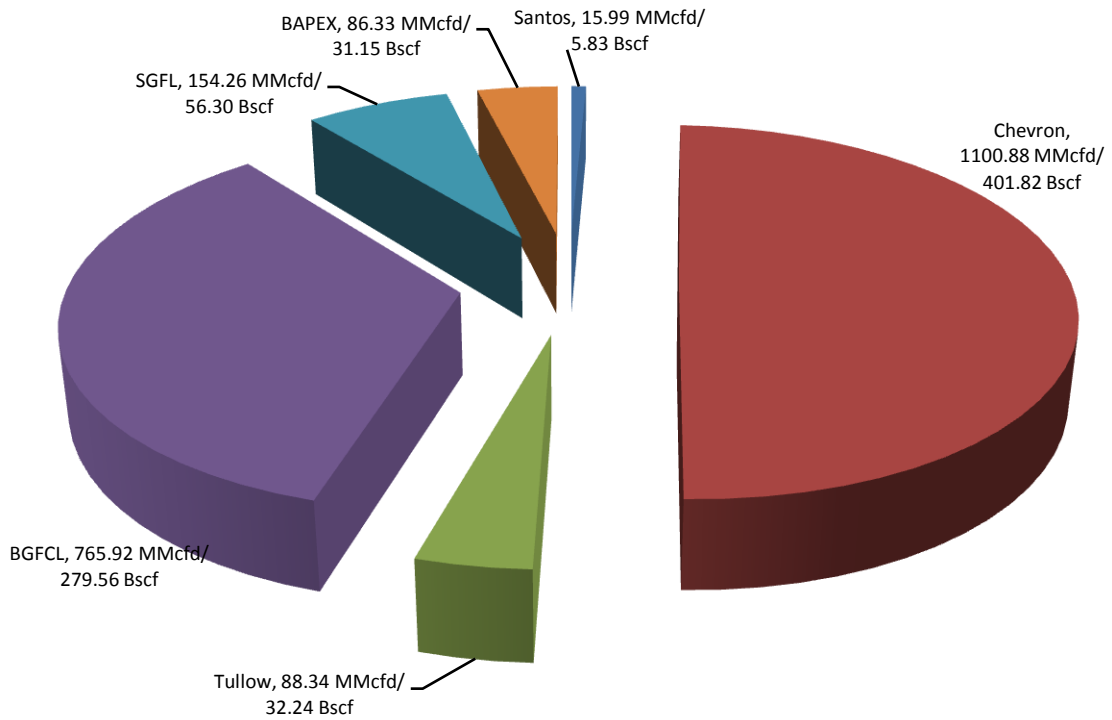


Figure 8: Fieldwise Gas Production in MMcfd, 212012-13

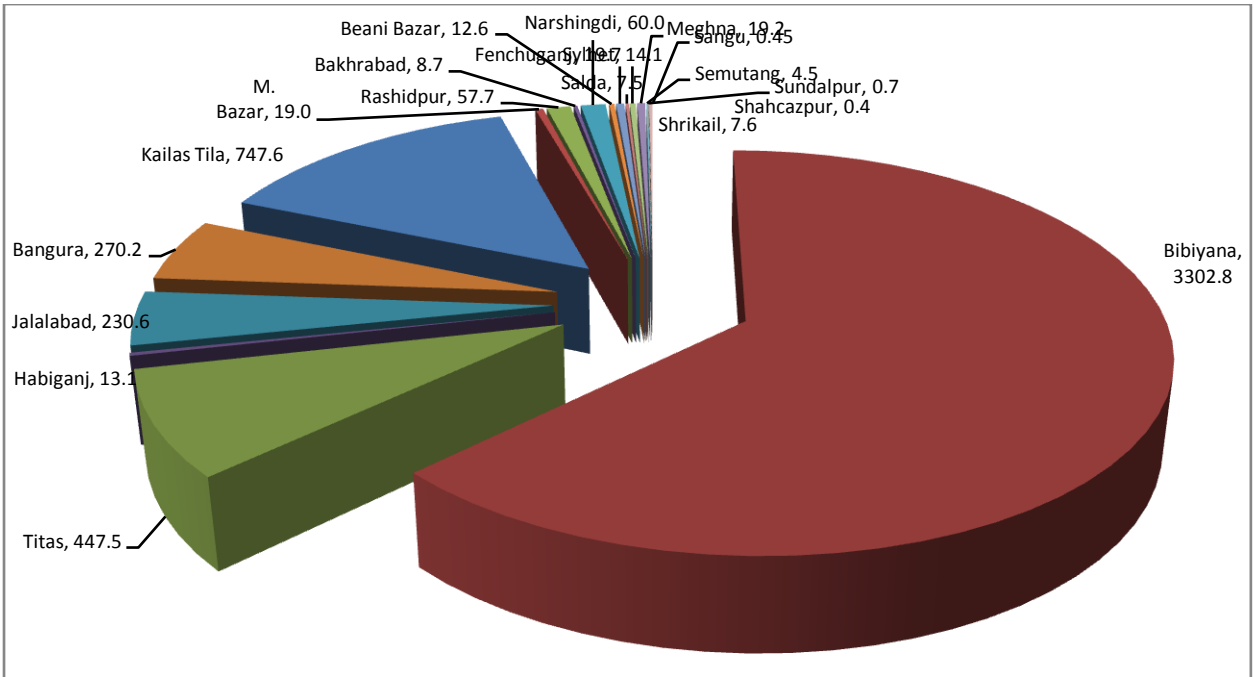


Figure 9: Fieldwise Condensate Recovery in bbl/Day: 2012-13

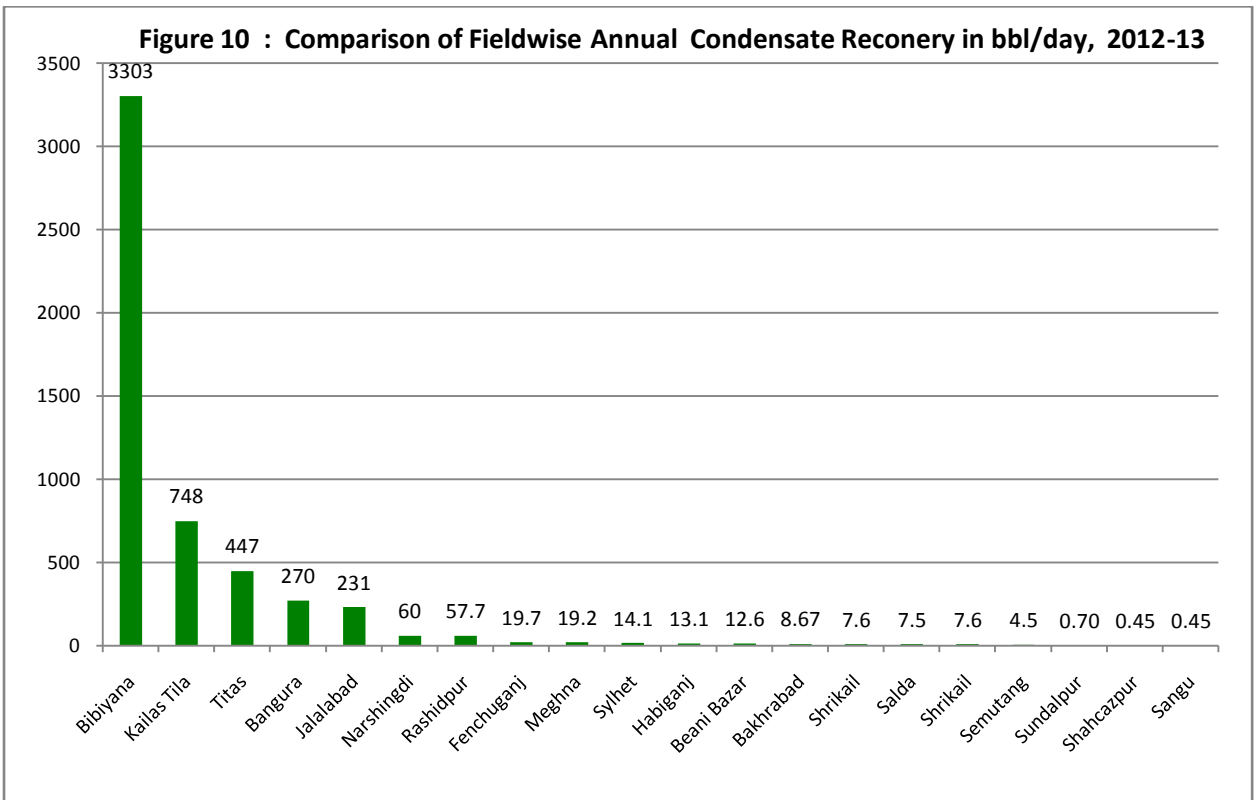


Figure 10 : Comparison of Fieldwise Annual Condensate Recovery in bbl/day, 2012-13

Figure 11: Annual Recovery of Liquid in 1000 Litre, 2012-13

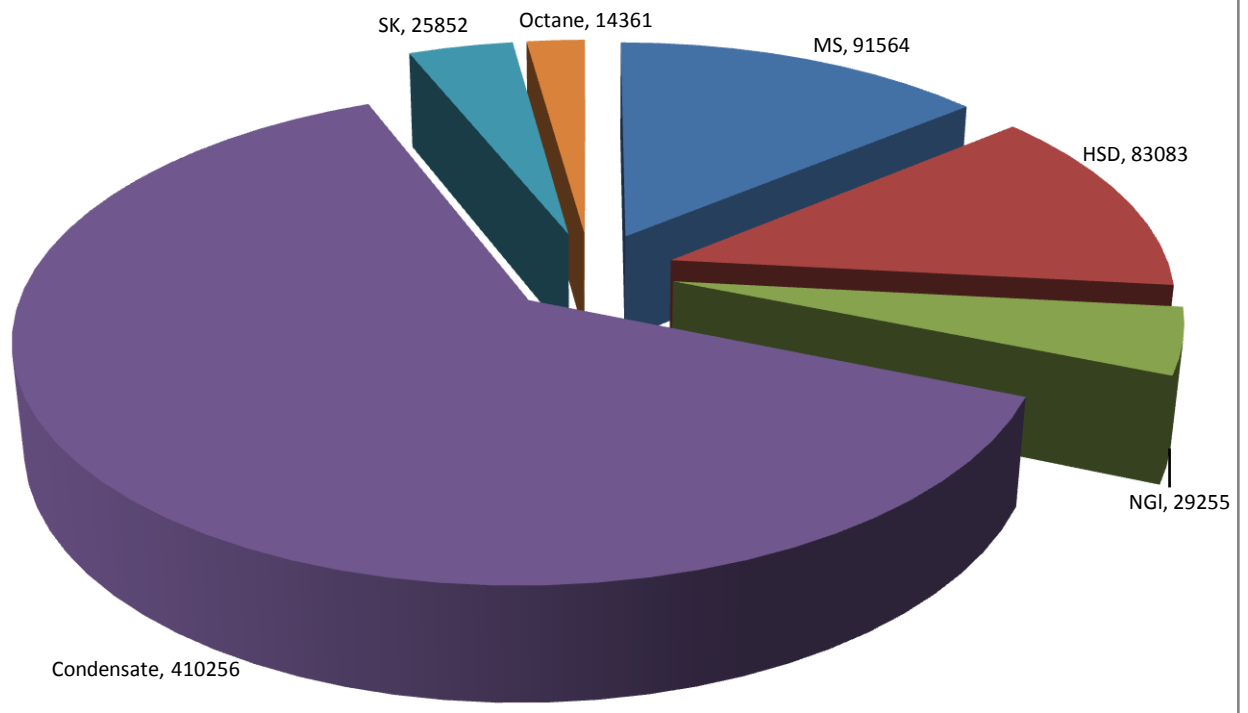
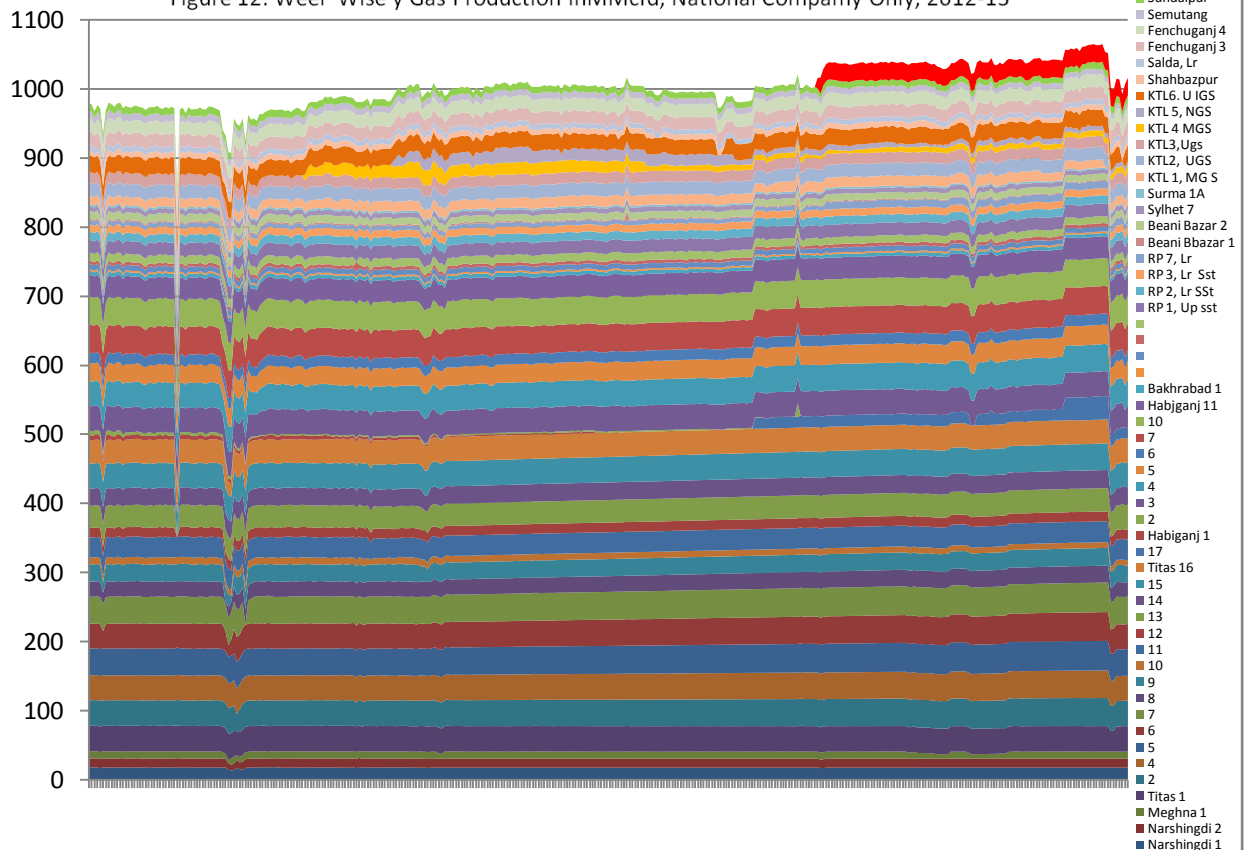
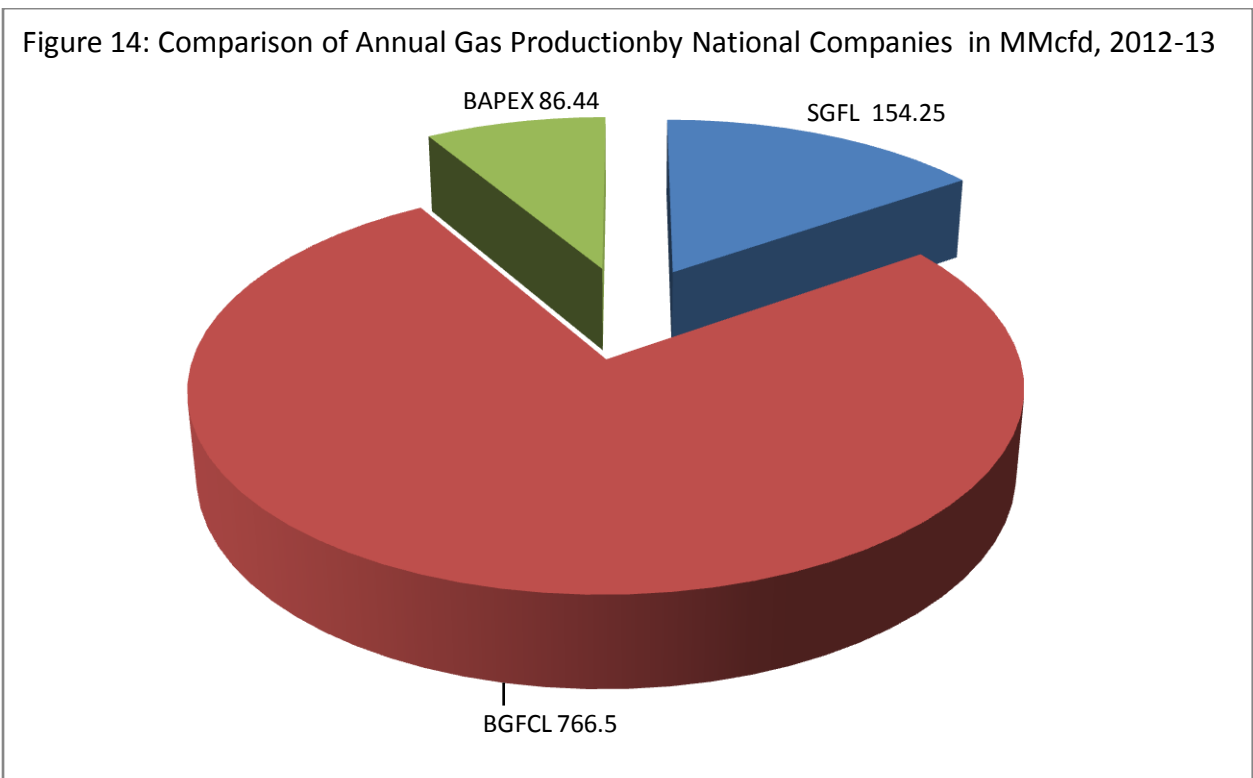
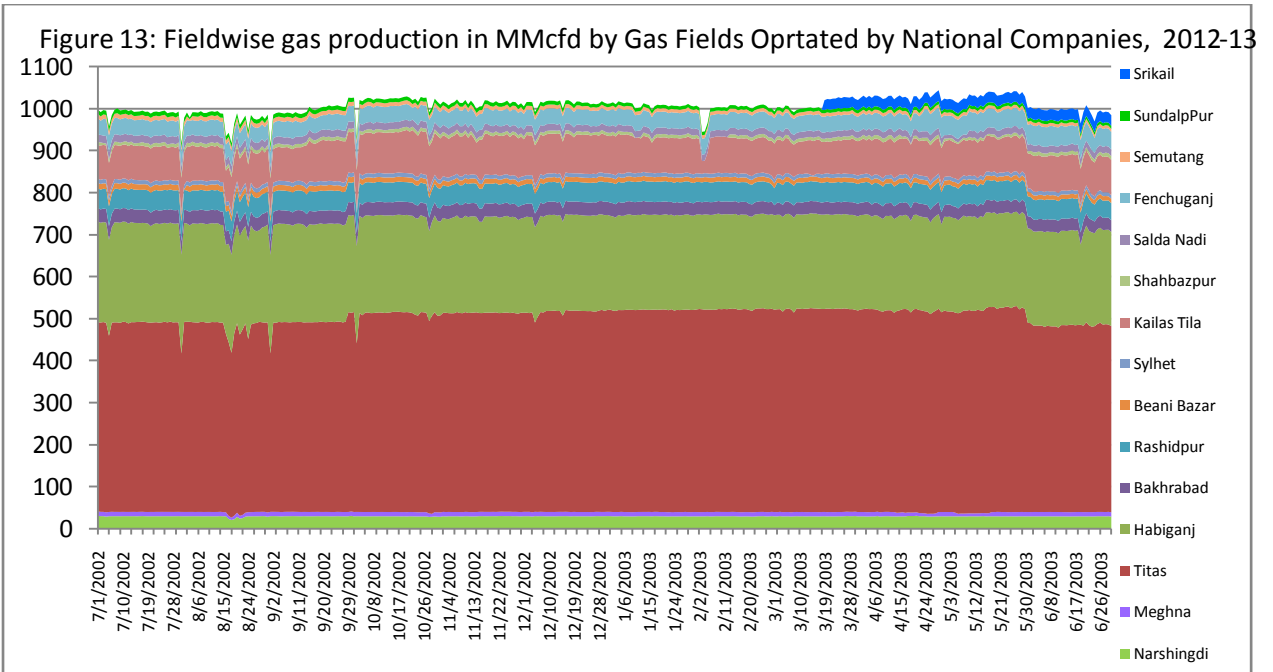
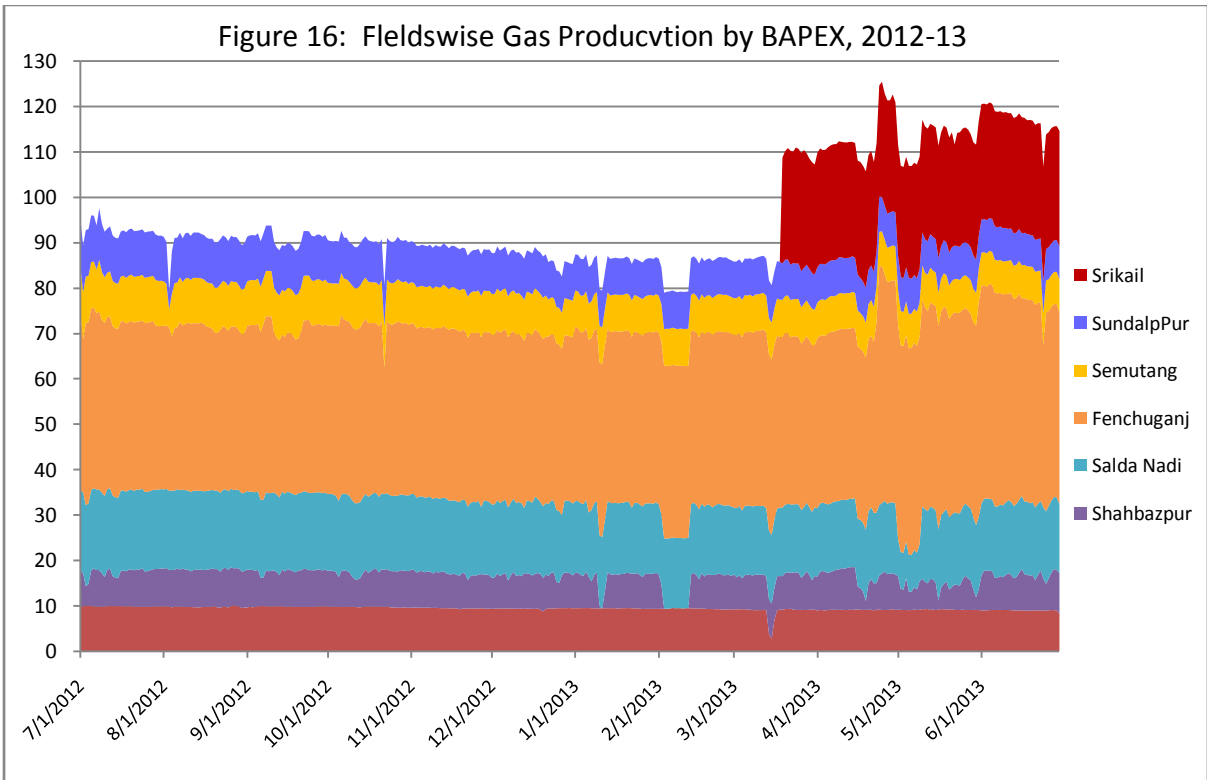
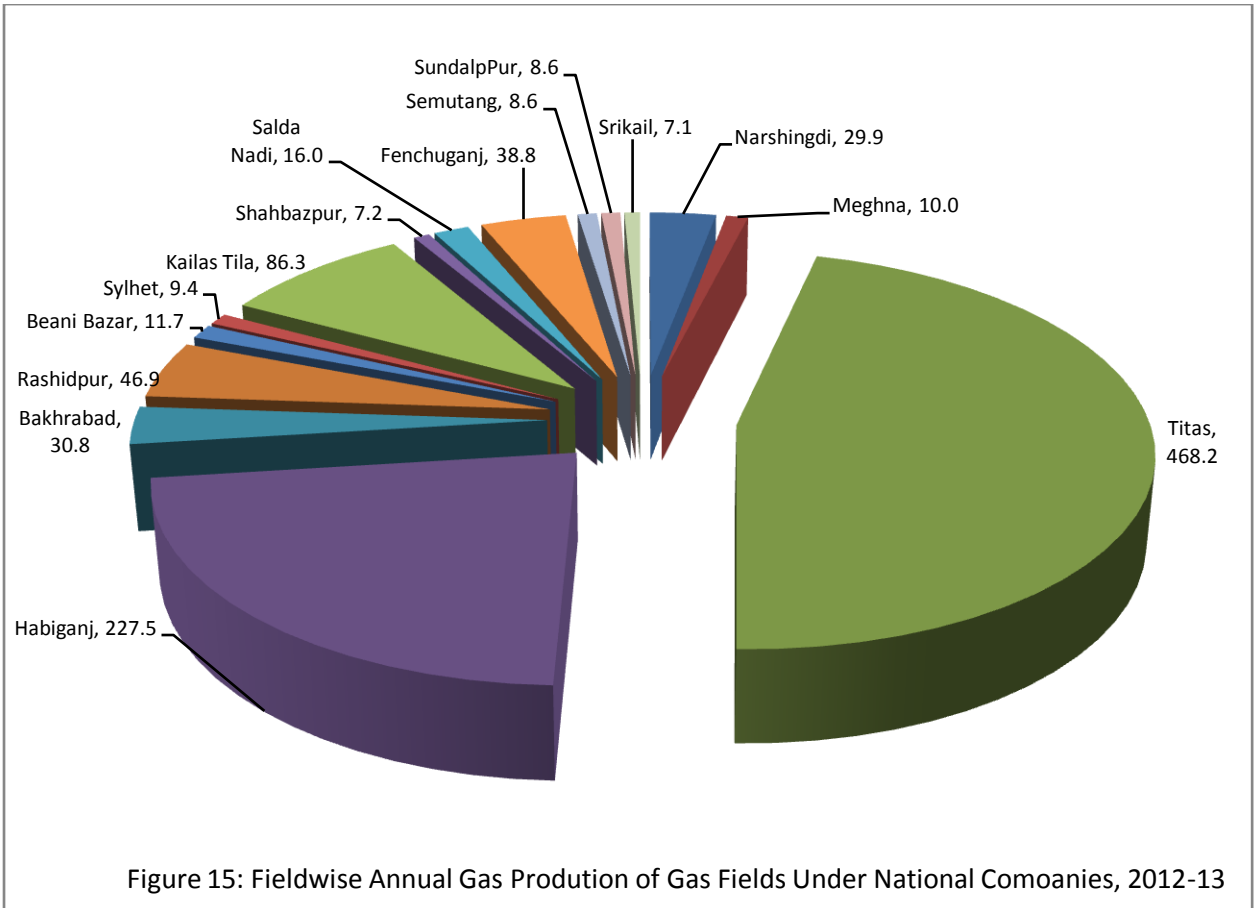


Figure 12: Well Wise y Gas Production in MMcf, National Company Only, 2012-13







Figutr 17: : Annual Fieldwise Gas Production in MMcfd. BAPEX, 2012-13

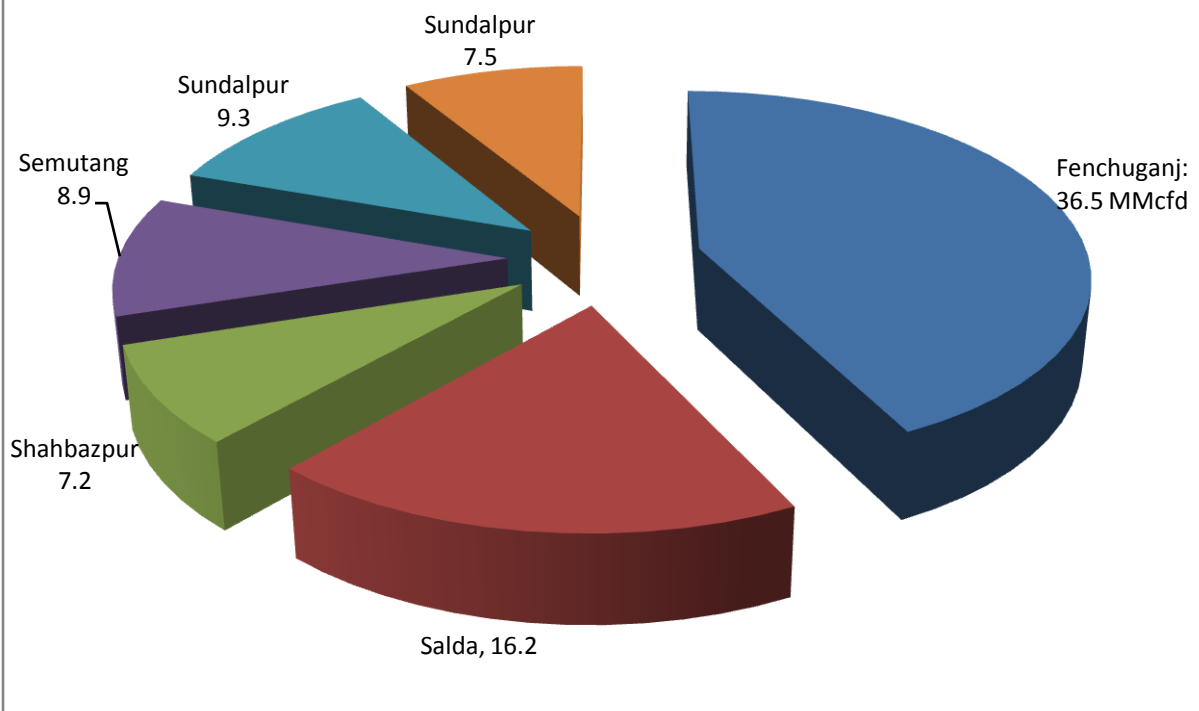
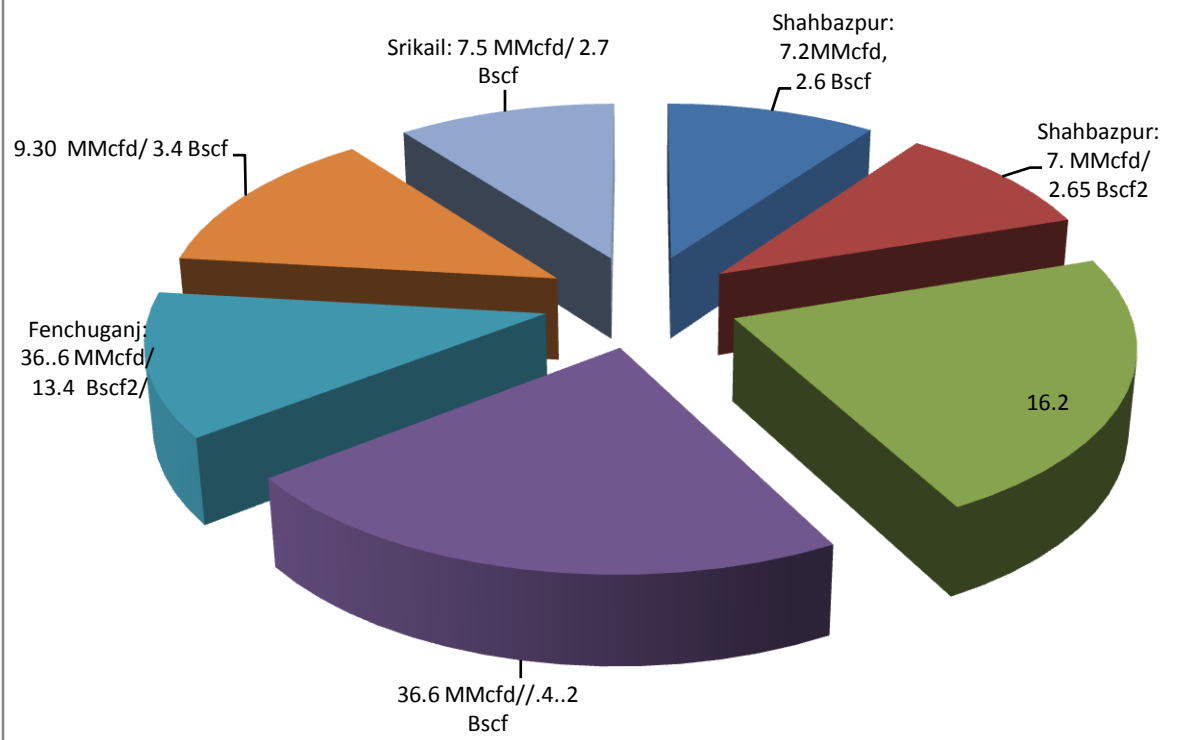


Figure 18: Fieldwise Annual Gas Production in MMcfd, BAPEX, 2012-13



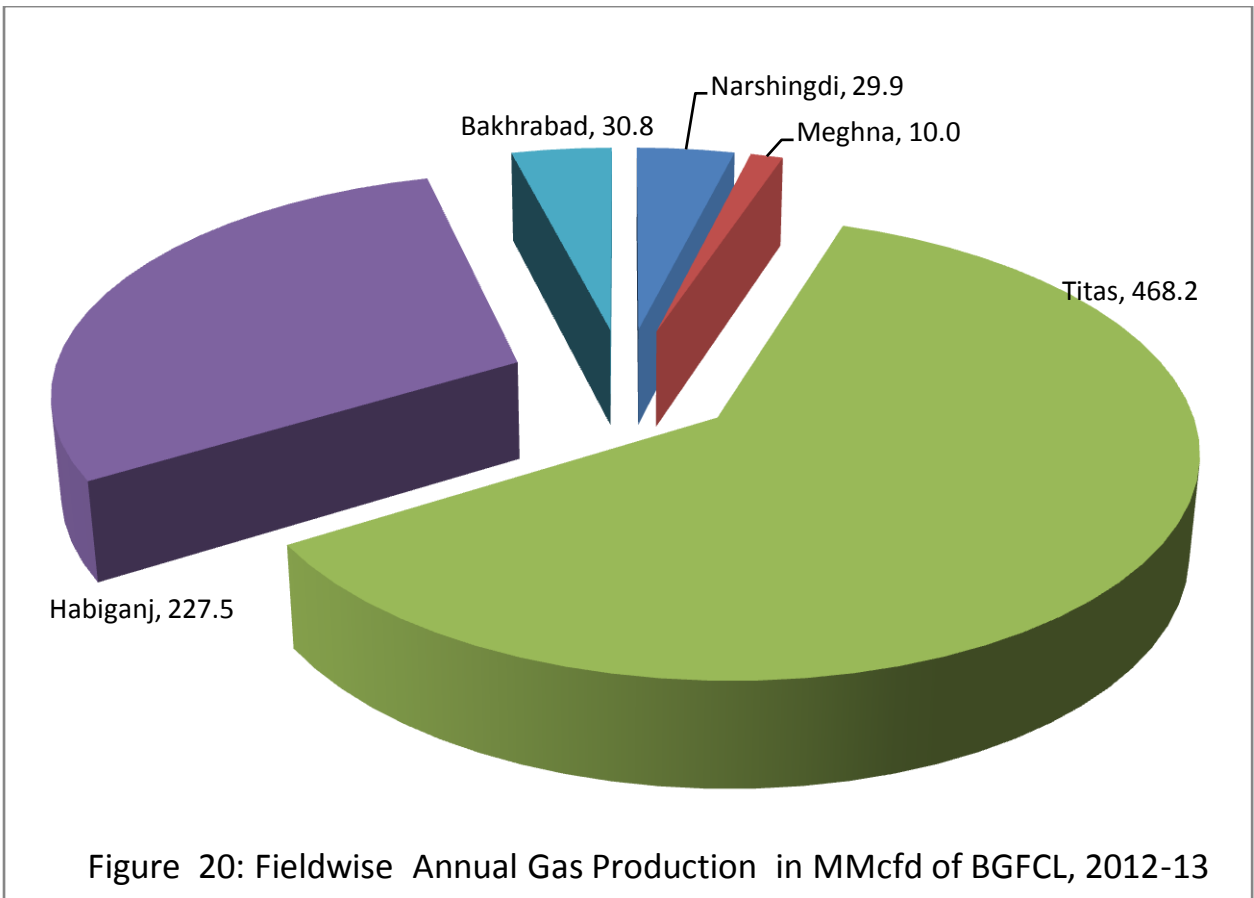
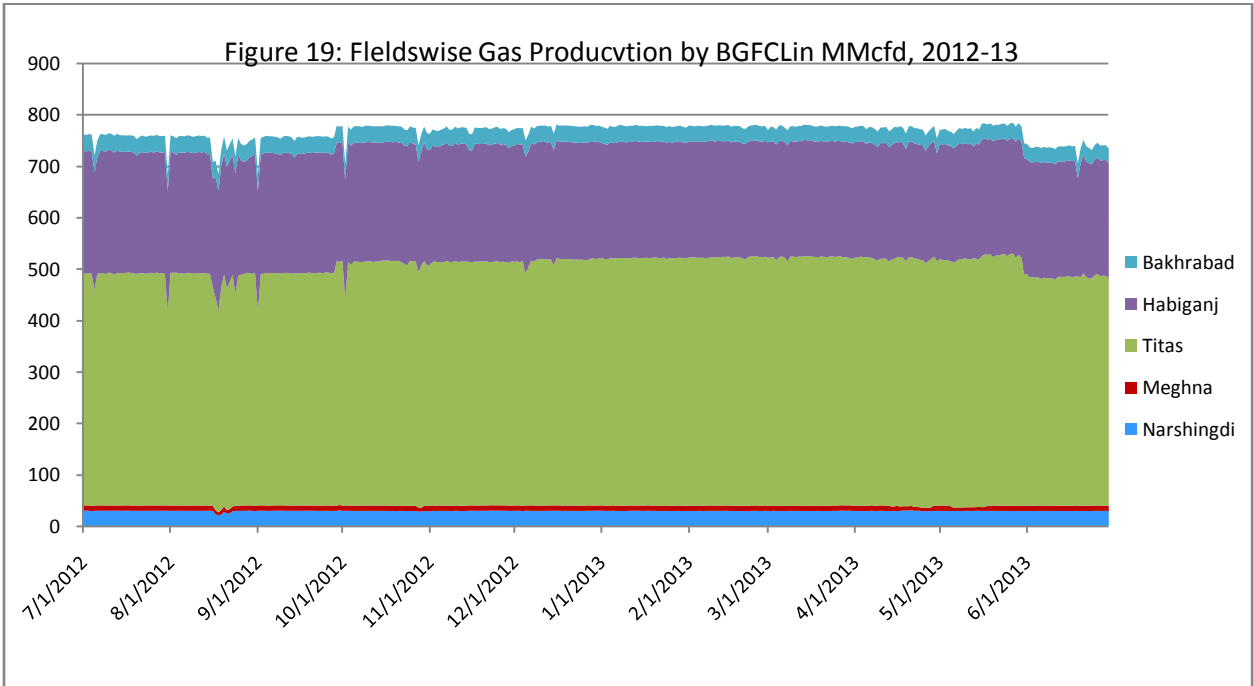


Figure 21: Fieldwise Gas Production by SGFL in MMcfd, 2012-13

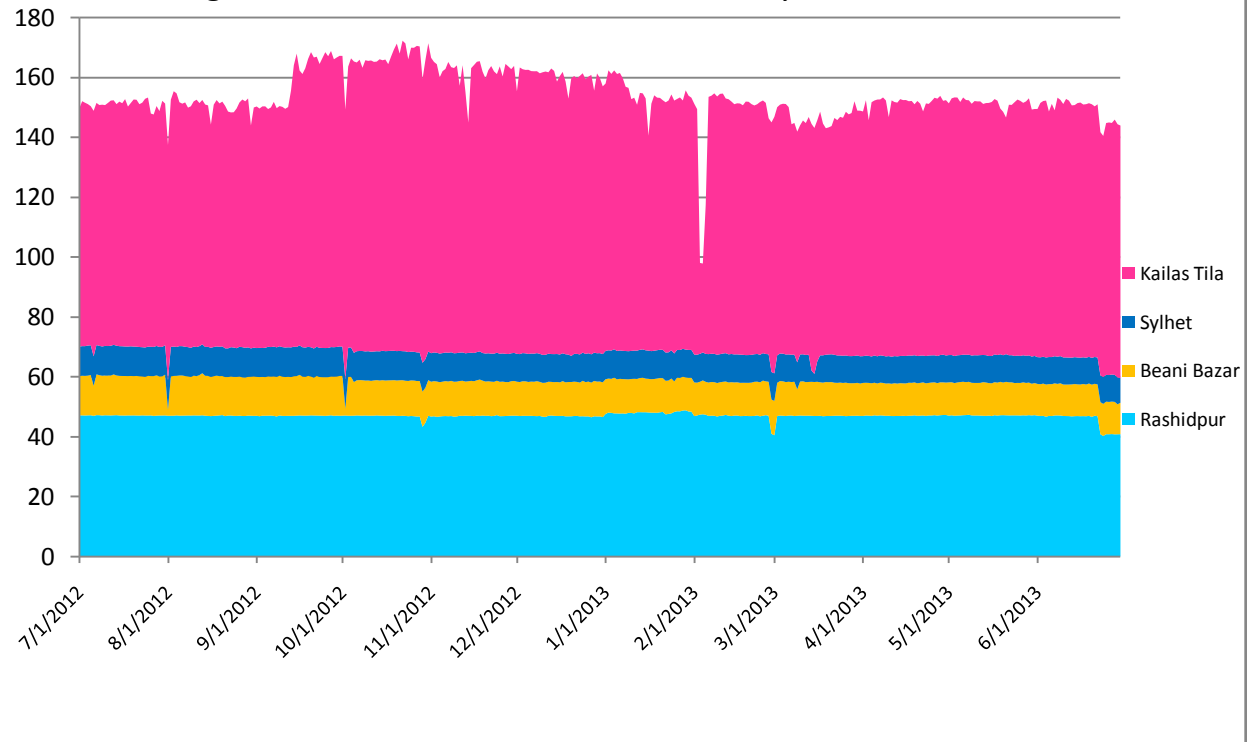
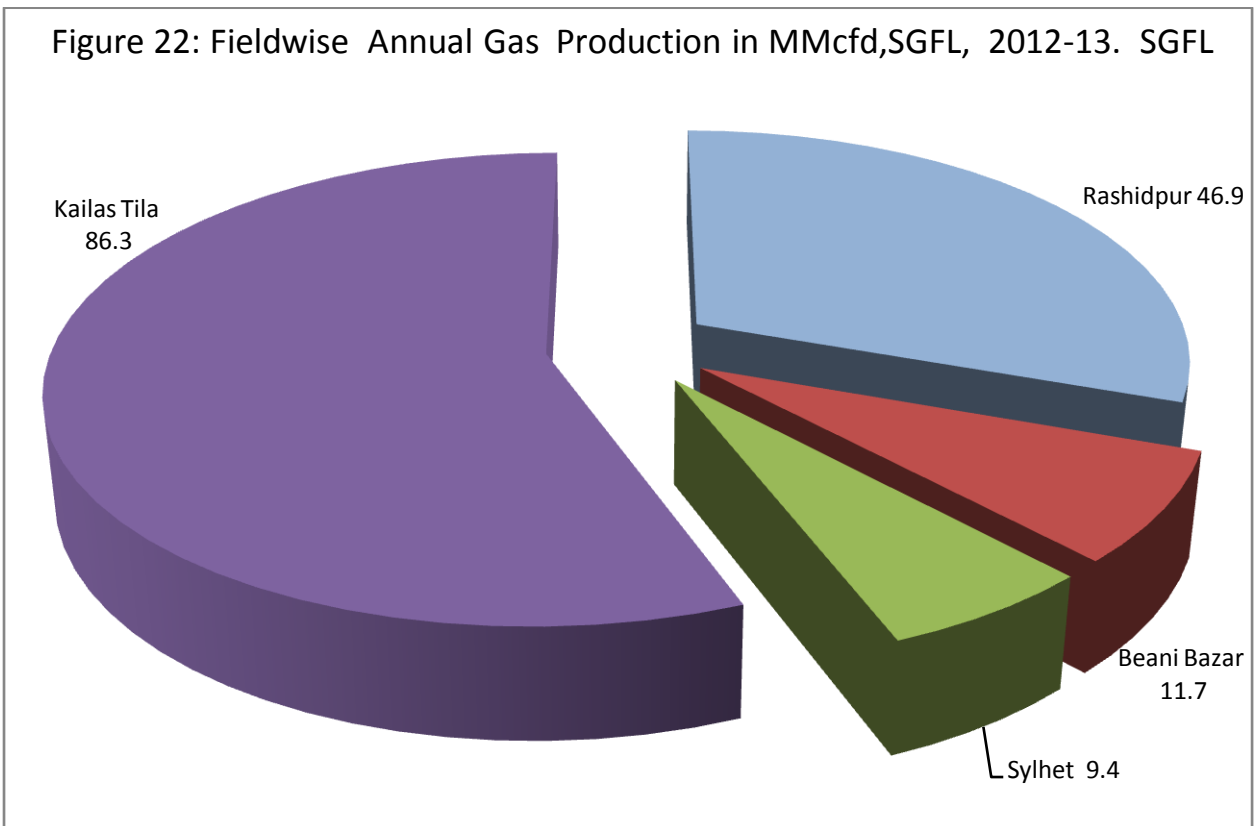


Figure 22: Fieldwise Annual Gas Production in MMcfd,SGFL, 2012-13. SGFL



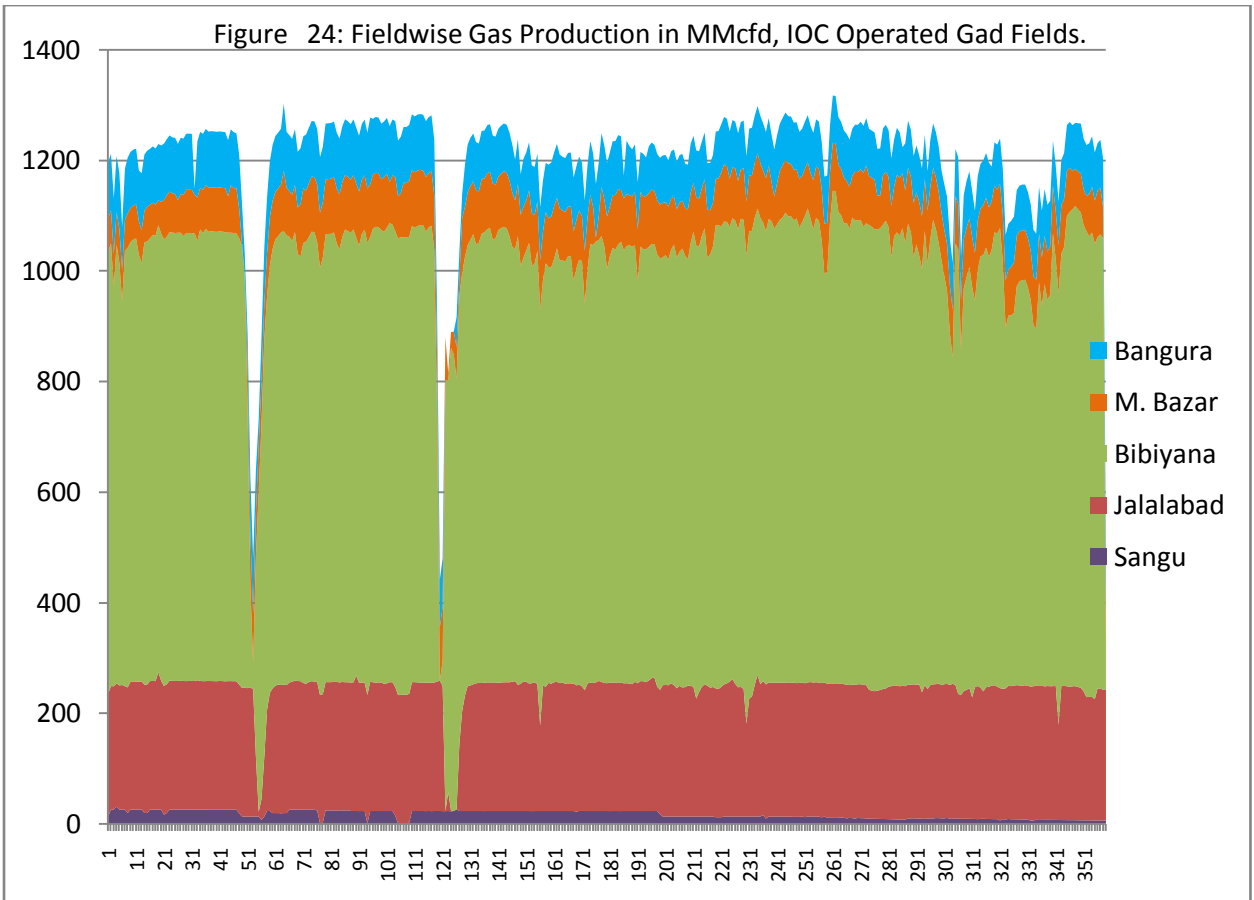
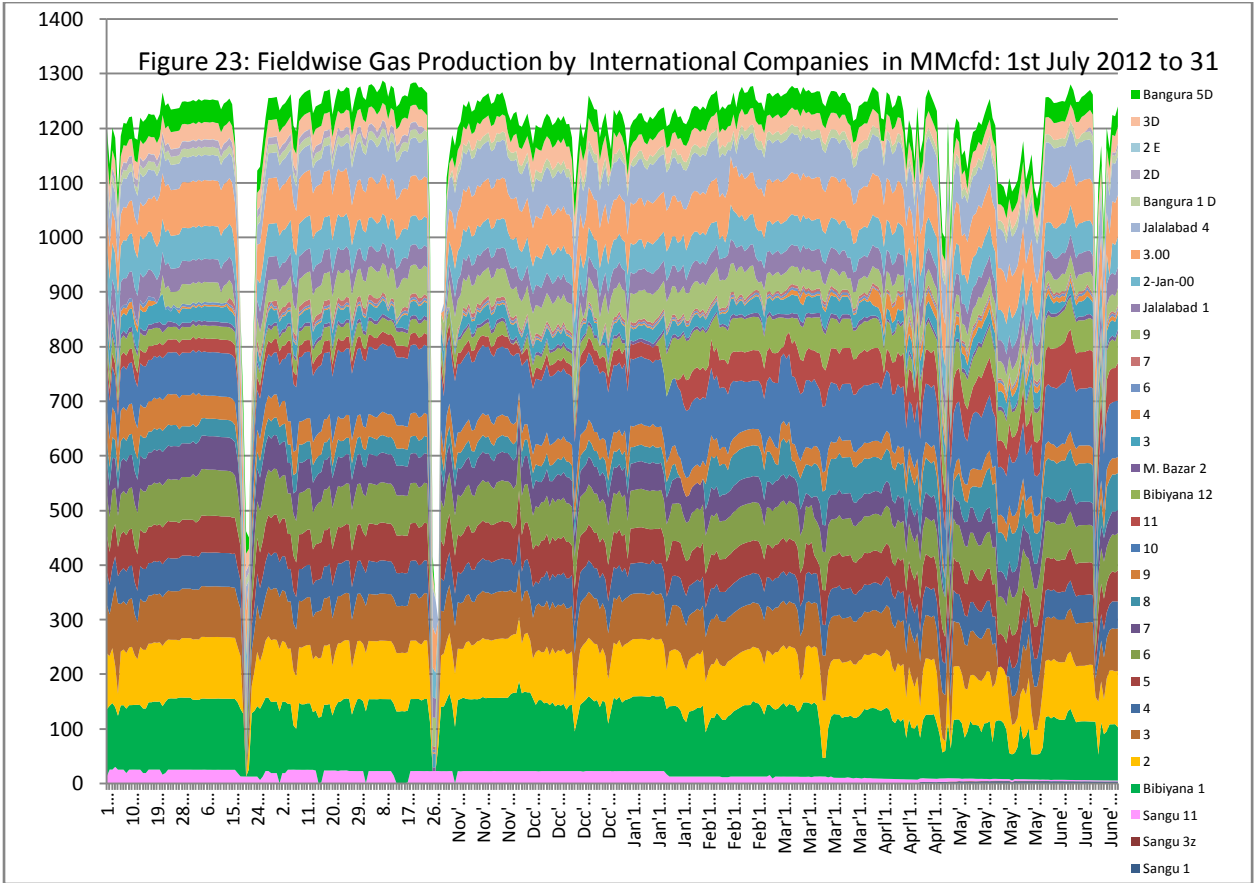


Figure 25: Fieldwise Gs Productionby IOCs in MMcfd and Bscf. 2012-13

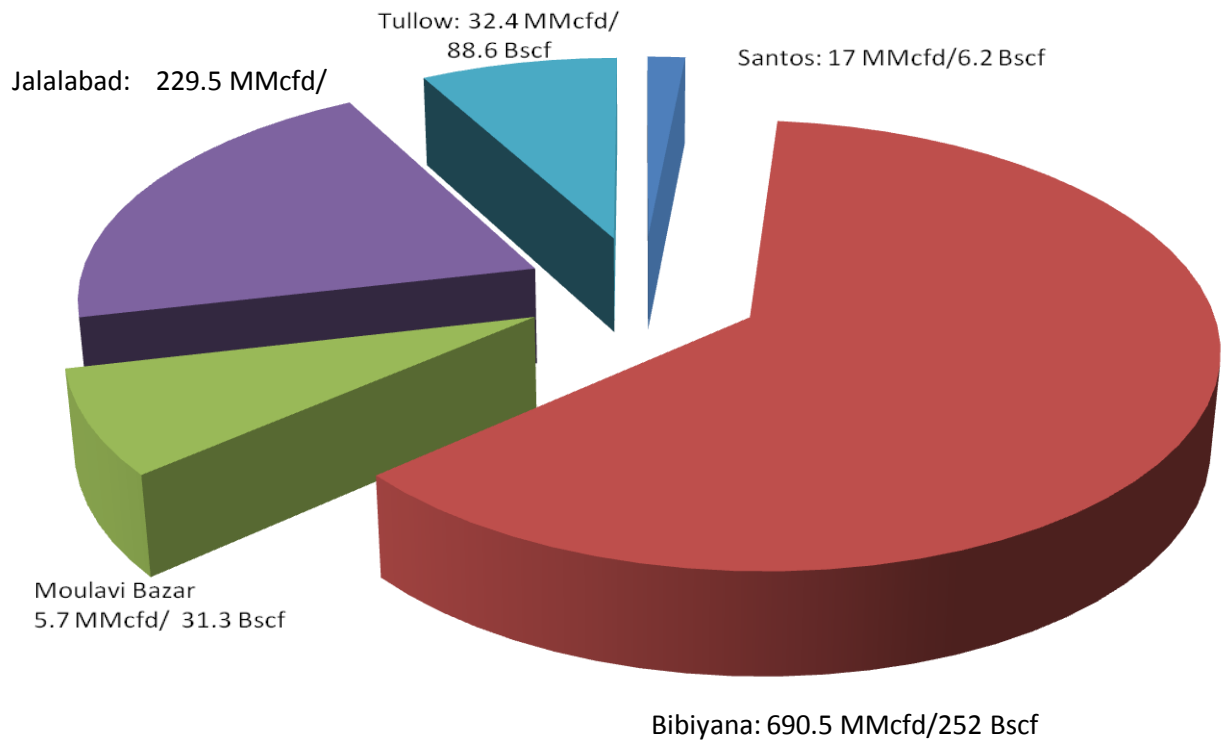
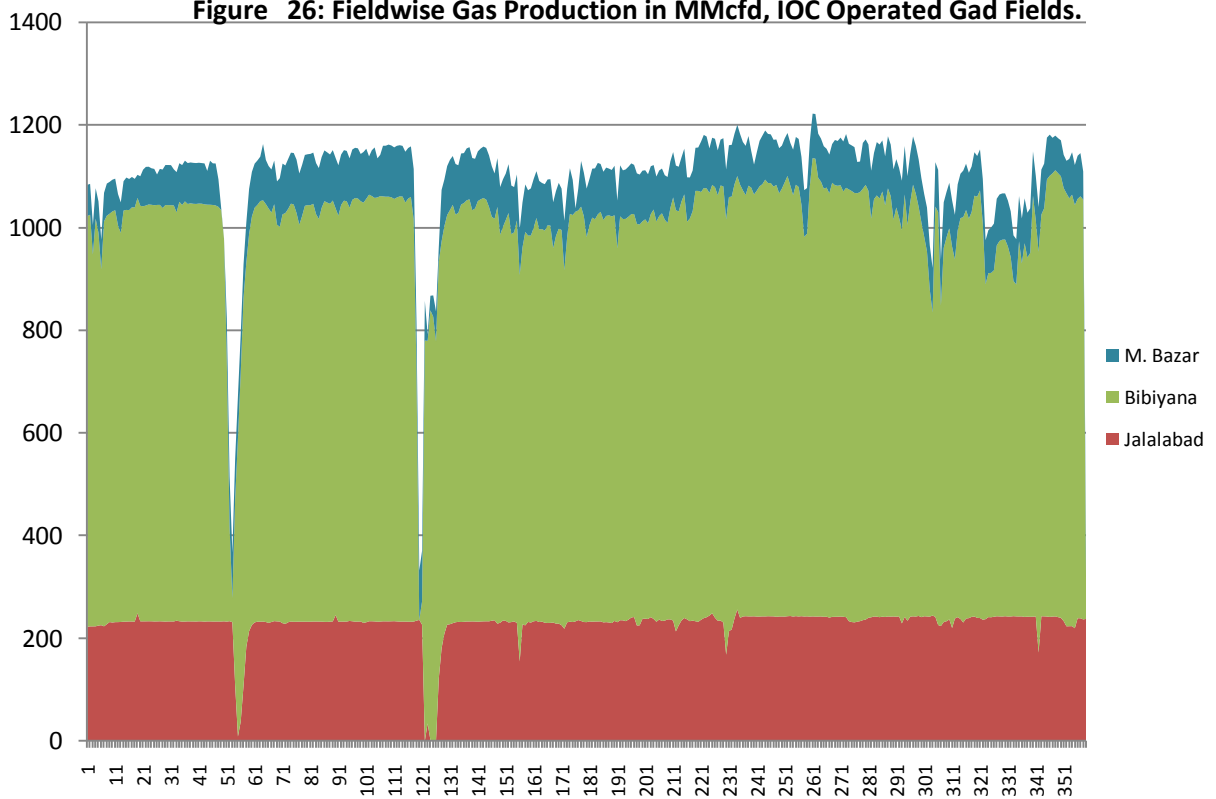


Figure 26: Fieldwise Gas Production in MMcfd, IOC Operated Gad Fields.



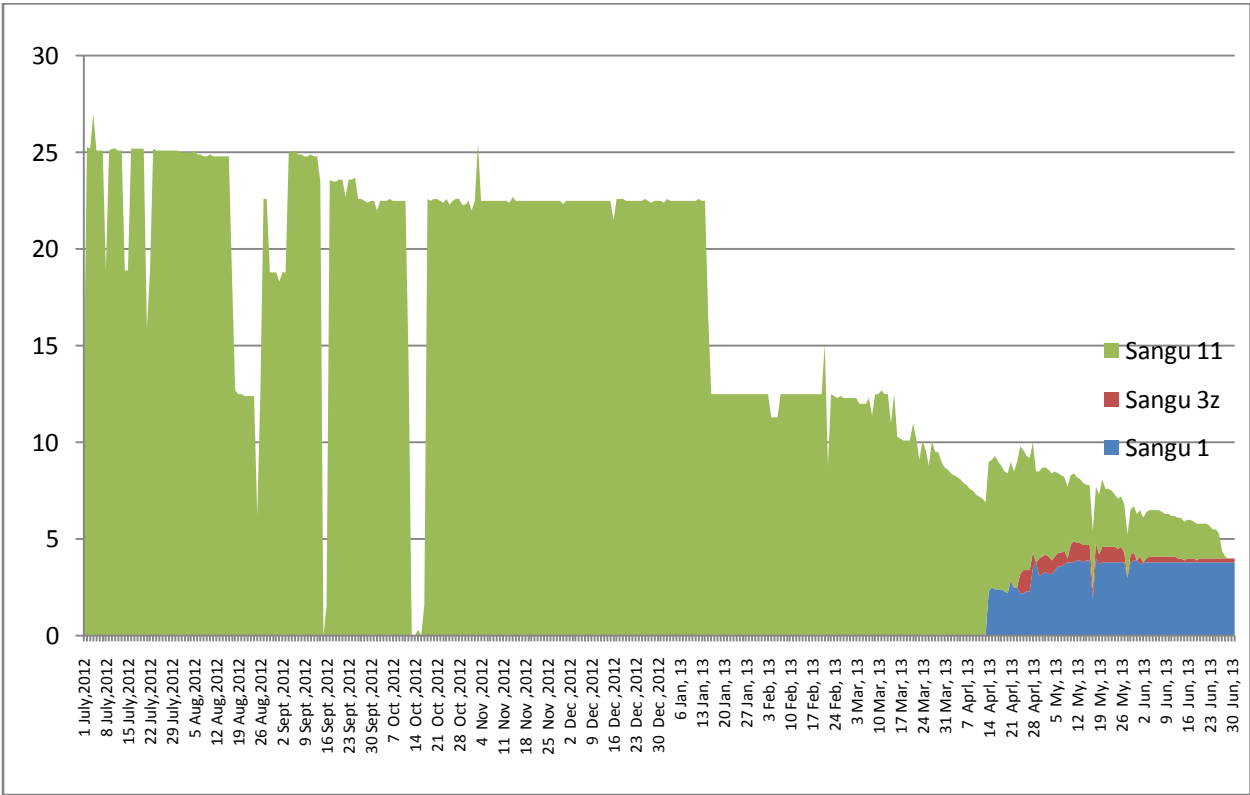
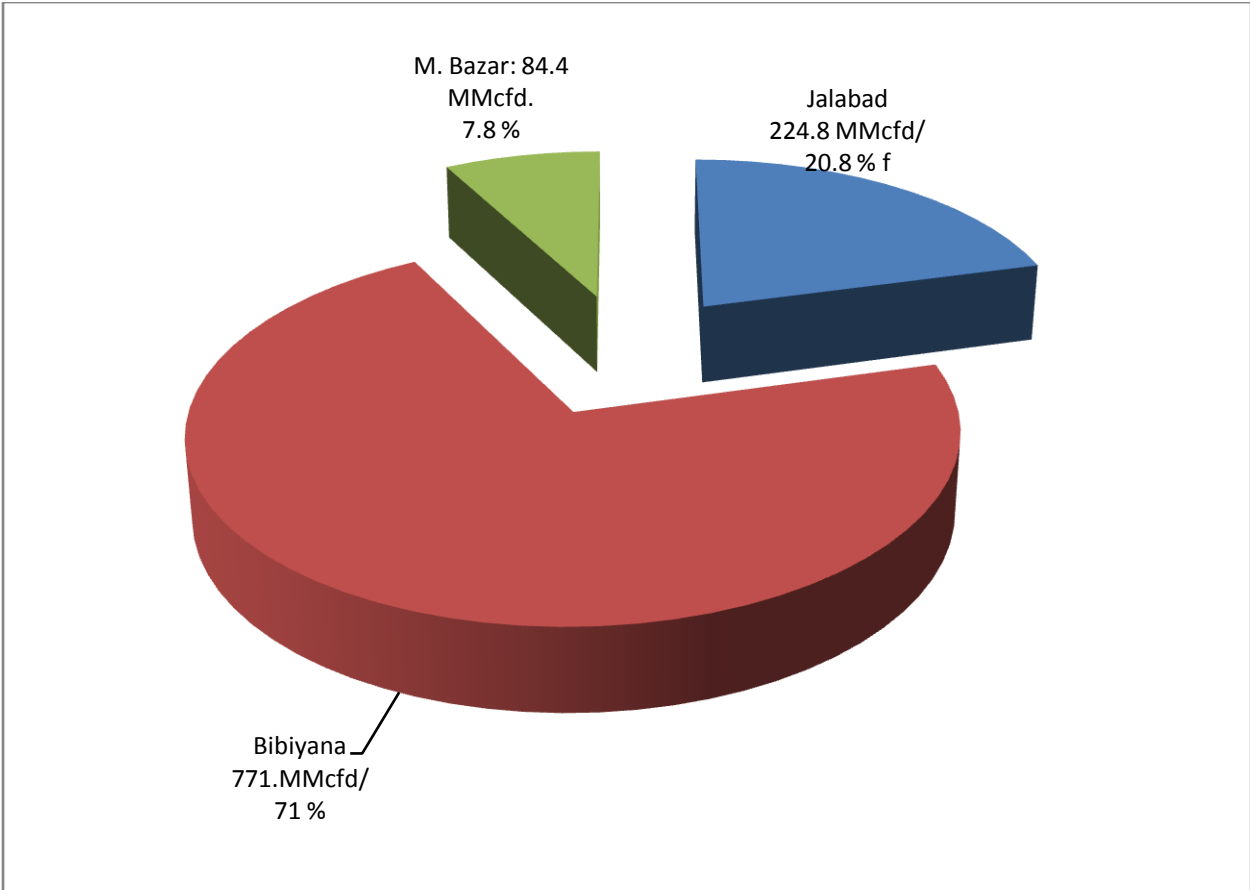


Figure 29: Wellwise Gas Production In MMcfd, Tullow Oil, 2012-13.

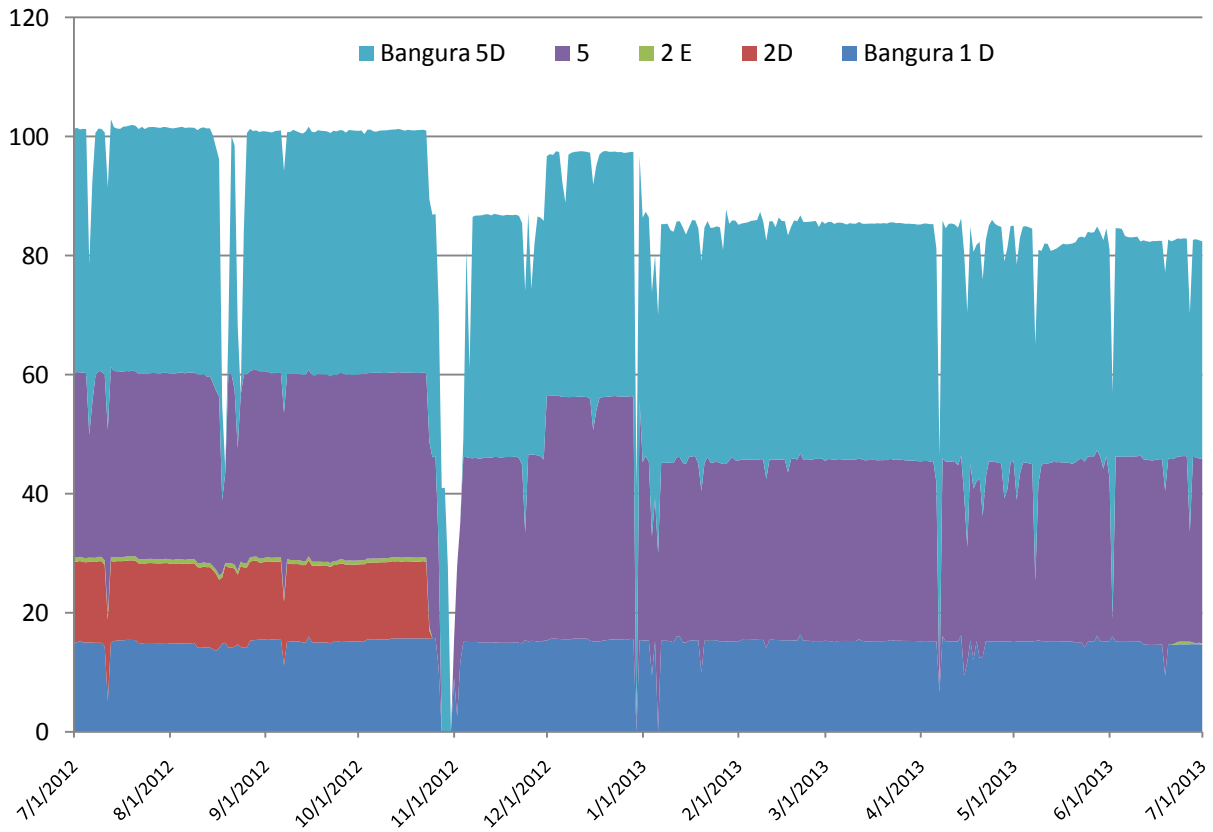


Figure 30: : Secorwise Gas Consumption In MMcfd and Percentage of Total, 2012-13

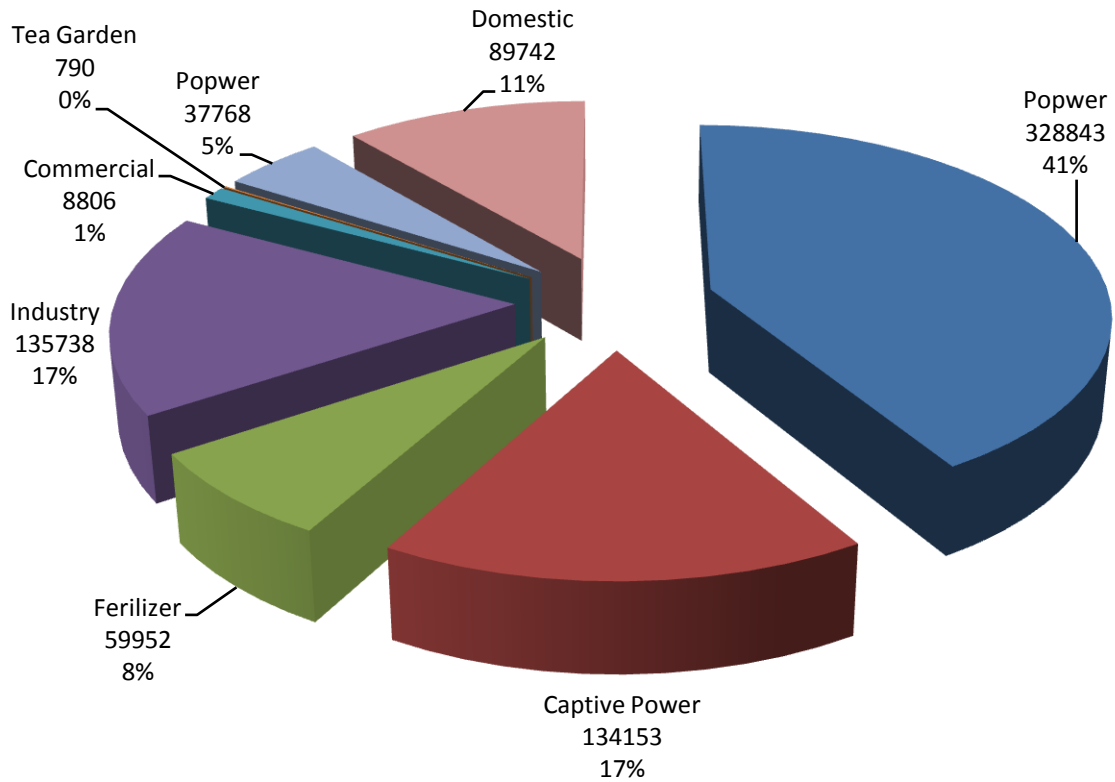


Figure : Recovery of Liquid Product in 1000 Litre, 2012-13

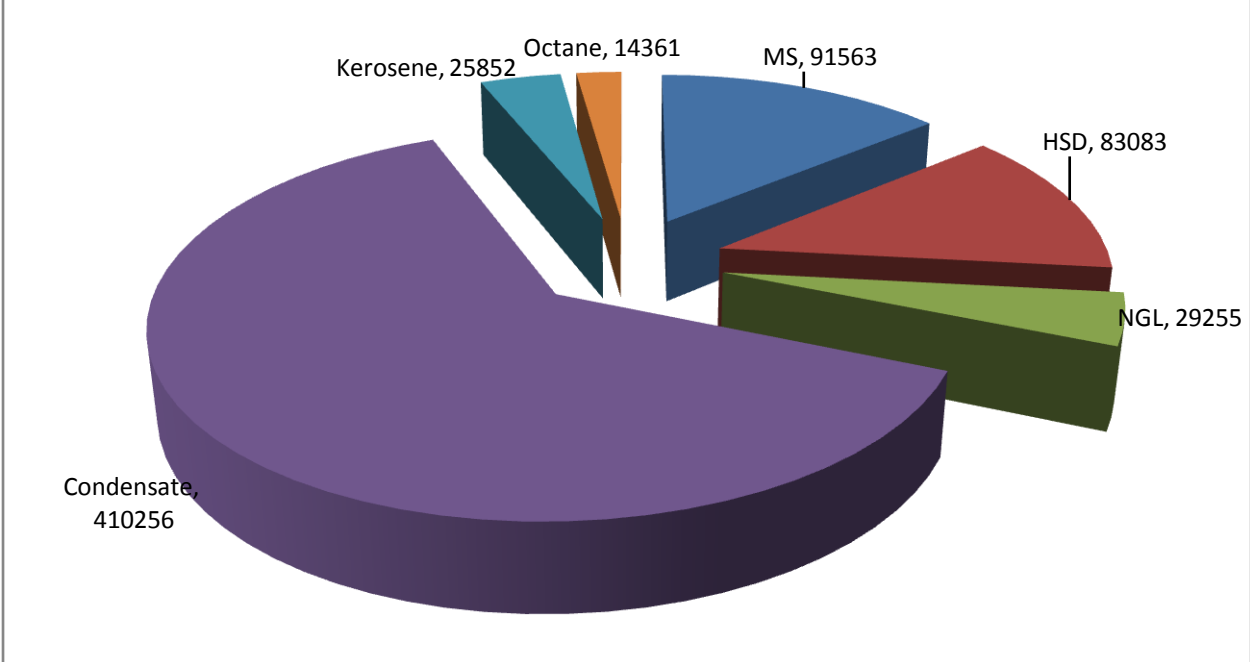


Figure 30: Sectprwise Consumption of Gas in MMcfd/ Bscf , 2012-13

