

GLOBALISATION GROWTH AND POVERTY

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Changing Pattern of Employment in the Primary Sector in Goa

*Silvia Maria de Mendonca Noronha**

Introduction

The Primary Sector refers to agriculture proper and other allied activities like mining, quarrying, livestock, forestry, hunting, plantations, etc. This sector plays a pivotal role in an economy, especially in the early stages of development. Once this sector develops it paves the way for other sectors to emerge and grow.

Objectives of the Study

This paper seeks to analyse:

1. The trends in the employment pattern in the primary sector as a whole and the sex distribution.
2. The intra-sectoral distribution of the total workforce in the primary sector and the sex distribution and finally.
3. To draw appropriate conclusions from the above findings.

To facilitate discussion, the paper has been divided into 3 sections. Section I deals with the trends in the total workforce (TWF) in the primary sector together with the sex distribution. Section II relates to the intra-sectoral distribution of the TWF and its sex distribution and Section III concentrates on the policy implications.

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Workforce Trends

In this section we consider the total workforce in the primary sector as a whole, as well as in the main sub-sectors *i.e.* in Agriculture Proper (AP) and in other than Agriculture Proper (OTAP). Agriculture Proper consists of workers employed as agricultural labourers and cultivators and other than agriculture proper consists of workers engaged in mining, quarrying, livestock, fishing, forestry, plantations, orchard, etc.

Table 1 shows the total workforce employed in the primary sector and its main sub-sectors from 1961-1991.

Table 1: Workforce Trends in the Primary Sector and It's Main Sub-Sectors.

<i>Year</i>	<i>TWF in AP</i>	<i>TWF in OTAP</i>	<i>TWF in the Primary Sector</i>
1961	142,096 (82.6)	29,997 (17.4)	172,093 (100)
1971	98,815 (78.7)	26,733 (21.3)	125,548 (100)
1981 Main	88,932 (72.6)	33,568 (27.4)	122,500 (100)
Marginal	35,511 (94.6)	2,027 (5.4)	37,538 (100)
Total	124,443 (77.8)	35,595 (22.2)	1,60,038 (100)
1991 Main	91,812 (74)	32,049 (26)	123,861 (100)
Marginal	21,599 (93.5)	1,500 (6.5)	23,099 (100)
Total	113,411 (77)	33,549 (23)	1,46,960 (100)

Source: Census of India, Goa, Daman and Diu, Economics Tables, 1961, 1971, 1981, 1991.

Note: AP - Agriculture Proper
OTAP - Other than Agriculture Proper.

From the above table we observe the following:

1. The absolute workforce as well as the percentage in Agriculture Proper has been declining from 1961-1991.
2. In percentage terms the fall has been 3.9% points from 1961-1971 to 6.1 points from 1971-1981 (Main workers) and from 1981 to 1991 (TW) it has been 0.6% points. The fall was greater from 1971-1981.

3. In Other than Agriculture Proper (OTAP) the absolute workforce shows a fall from 1961-1971, but a rise from 1971-1981 (Main). From 1981-1991 (TW) there is a fall in absolute terms.
4. In its percentage to the total work force in the primary sector, OTAP shows a rise of 3.9% points from 1961-1971 and 6.1% points from 1971-1981. From 1981-1991 (TW), there was a marginal rise to 0.6 points. In percentage terms, OTAP has shown a rise from 1961-1991, though the rise from 1981-1991 is negligible.

Thus, from the above, we note that the total workforce in AP has been declining, both in absolute, as well as in percentage terms, from 1961-1991, whereas, in the case of OTAP, in absolute terms, it shows a fall from 1961-1971 and 1981-1991 but, a rise from 1971-1981. In percentage terms, the total workforce in OTAP to the total workforce in the primary sector, has been growing from 1961-1991, though rather slowly from 1981-1991.

We conclude from the above observations, that in Goa, Agriculture Proper still continues to employ the bulk of the labour force *i.e.* 77.2% in 1991, but, the employment in this sub-sector is declining, unlike that in OTAP which shows a growing trend. So we conclude that, within the Primary Sector, the people are increasingly being employed in OTAP as compared to AP.

Table 2 shows the sex distribution of the Total workforce in the Primary Sector as well as the sub-sectors.

From the table we observe the following:

1. The male workforce in the primary sector, shows a fall in absolute terms from 1961-1991, but a rise in its percentage to the total workforce in the primary sector.
2. In percentage terms, it increased by 15.3% points from 1961-1971 and negligibly by 0.2% points from 1961-1971 (Main). From 1981-1991 (TW) the increase was 1.3% points.
3. The female workforce in the primary sector also shows a fall in absolute terms from 1961-1991, as well as in percentage terms.
4. In percentage terms it fell by 15.3% points from 1961-1971 and by 0.2% points in 1971-1981 (Main) and from 1981-1991 (TW) it fell by 1.3% points.

Thus from the above observations, we conclude that the female workforce in the primary sector, has been declining both in absolute as well as percentage terms from 1961-1981, whereas, the male workforce has been

Table 2: Sex Distribution of the Workforce Trends in the Primary Sector and its Main Sub-Sectors.

Year	Total Workforce in the Primary Sector			Total Workforce in AP			Total Workforce in OTAP		
	M	F	Total	M	F	Total	M	F	Total
1961	88,546 (51.5)	835,547 (48.5)	172,093 (100)	66,394 (46.7)	755,702 (53.3)	142,096 (100)	22,152 (73.8)	7,845 (26.2)	29,997 (100)
1971	83,856 (66.8)	41,692 (33.2)	125,548 (100)	61,975 (62.7)	36,840 (37.3)	98,815 (100)	21,881 (81.9)	4,852 (18.1)	26,733 (100)
1981 Main	82,230 (67)	40,270 (33)	122,500 (100)	53,775 (60)	35,157 (40)	88,932 (100)	28,455 (84.8)	5,113 (15.2)	33,568 (100)
Marginal	8,976 (24)	28,562 (76)	37,538 (100)	7,959 (22.4)	27,552 (77.6)	35,511 (100)	1,017 (50.2)	1,010 (49.8)	2,027 (100)
Total	91,206 (57)	68,832 (43)	160,038 (100)	61,734 (49.6)	62,709 (50.4)	1,24,443 (100)	29,472 (82.8)	6,123 (17.2)	35,595 (100)
1991 Main	81,008 (65.4)	42,853 (34.6)	123,861 (100)	54,370 (59.2)	37,442 (40.8)	91,812 (100)	26,638 (83)	5,411 (17)	32,049 (100)
Marginal	4,734 (20.5)	18,365 (79.5)	23,099 (100)	4,179 (19.3)	17,420 (80.7)	21,599 (100)	555 (37)	945 (63)	1,500 (100)
Total	85,742 (58.3)	61,218 (41.7)	1,46,960 (100)	58,549 (51.6)	54,862 (48.4)	1,13,411 (100)	27,193 (81)	6,356 (19)	33,549 (100)

Source: Census of India, Goa Daman and Diu, Economic Table, 1961, 1971, 1981, 1991.

Note: AP - Agriculture Proper
OTAP - Other Than Agriculture Proper

declining in absolute terms, but shows a rise in its percentage terms. So we conclude that, more males are increasingly finding employment in the primary sector compared to females.

- In Agriculture Proper, we note that the male workforce shows a declining trend in absolute terms from 1961-1991, and, a rising trend in percentage terms. From 1961-1971, there was a rise of 16% points in the male workforce in Agriculture Proper. From 1971-1981 (Main) there was a fall of 2.7% points. From 1981-1991 (TW) there was a rise of 2% points.
- With regard to female workers, we note a fall in absolute terms from 1961-1991, as well as in percentage terms, except from the decade 1971-1981, where there is a rise in percentage terms. We also note that there are more female marginal workers in Agriculture Proper than males.

Thus, we conclude that, more males are finding employment in Agriculture Proper than females from 1961-1991 and there are a higher percentage of females engaged as marginal workers in Agriculture Proper.

7. In Other Than Agriculture Proper, we also note a fall in absolute terms in the male workforce, with the exception of the decade 1971-1981 and a rise in percentage terms. In the case of the female workforce, there is a fall in absolute terms from 1961-1971, but, a rise from 1971-1981 and 1981-1991. In percentage terms, there is a fall from 1961-1971 of 8.1% points and 2.9% points from 1971-1981 (Main). However, there was a rise of 1.8% points from 1981-1991 (TW).

We conclude from the above that, through the female workforce showed a fall in percentage terms in Other Than Agriculture Proper from 1961-1981, unlike the male workforce, which showed a rise, it has shown a rise from 1981-1991, both in percentage, as well as, in absolute terms in Other Than Agriculture Proper unlike the male workforce, which showed a fall both in absolute and percentage terms from 1981-1991 (TW). This shows that, within the primary sector, there is a rising percentage as well as absolute numbers of the female workforce in Other Than Agriculture Proper, as compared to the male workforce.

Summary of Conclusions in Section I.

1. In Goa, Agriculture Proper (AP), still continues to employ the bulk of the labour force in the primary sector but, at a declining rate.
2. Other Than Agriculture Proper (OTAP) shows a growing trend in employment, leading us to conclude that, within the Primary Sector, the workforce is increasingly being employed in OTAP as compared to AP.
3. More males are increasingly finding employment in the primary sector compared to females.
4. Within the Primary Sector, more males as well as females are employed in AP from 1961-1991, but from 1981-1991 (TW) an increasing percentage of females are employed in OTAP than males.

Intra-Sectoral Distribution of the Workforce and its Sex Distribution

In this section we will consider the distribution of the total workforce in the various sub-sectors in the primary sector. We consider here figures from 1971-1991 as separate figures for mining and quarrying, livestock, fishery etc. are not available in 1961.

Table 3: Intra-Sectoral Distribution of the Workforce in the Primary Sector in Goa.

Year	TWF in Agriculture Proper (AP)		TWF in Other Than Agriculture Proper (OATP)		TWF in the primary sector
	As agricultural Labourers	As Cultivators	In Mining & Quarrying	In Forestry, Fishery, Livestock, Plantation, Orchards & Allied Activities	
1961	37,957 (22.1)	104,139 (60.5)	—	—	172,093 (100)
1971	38,296 (30.5)	60,519 (48.2)	16,237 (12.9)	10,496 (8.4)	125,548 (100)
1981 Main	30,556 (25)	58,376 (47.6)	18,985 (15.4)	14,583 (12)	122,500 (100)
Marginal	16,039 (42.7)	19,472 (51.9)	405 (1.1)	1,623 (4.3)	37,538 (100)
Total	46,595 (29)	77,848 (48.6)	19,390 (12.1)	16,206 (10.1)	160,038 (100)
1991 Main	35,284 (28.5)	56,528 (45.6)	16,432 (13.3)	15,617 (12.6)	123,861 (100)
Marginal	9,491 (41.1)	12,108 (52.4)	250 (1.1)	1,250 (5.4)	23,099 (100)
Total	44,775 (30.4)	68,636 (46.7)	16,682 (11.4)	16,867 (11.5)	1,46,960 (100)

Source: Census of India, Goa, Daman and Diu, Economic Tables, 1961, 1971, 1981 and 1991.

1. From 1971-1991, we note from the table that, a large percentage of the workforce in the primary sector has been employed as cultivators, though this percentage has shown a declining trend from 1971-1991. It has declined by 0.6% points from 1971-1981 (Main) and by 1.9% points from 1981-1991 (TW). In absolute terms, there has been a fall from 1971-1981(Main) and from 1981-1991 (TW).
2. The next sub-sector to employ a large percentage of the workforce in the primary sector is agricultural labourers. In this sub-sector, there was a fall of 5.5% points from 1971-1981 (Main) and a rise of 1.3% points from 1981-1991 (Main). In absolute terms, this sub-sector has shown a rise from 1971-1981 (Main) and a fall from 1981-1991 (TW).
3. The sub-sector of mining and quarrying showed a rise of 2.5% points from 1971-1981 (Main) and a fall of 0.7% points from 1981-1991 (TW). In absolute terms, this sub-sector has shown a rise from 1971-1981 (Main) and a fall from 1981-1991 (TW).

4. The sub-sector of forestry, fishery, livestock, plantations etc., showed a rise of 3.6% points from 1971-1981 (Main) and a rise of 1.4% points from 1981-1991 (TW). In absolute terms, this sub-sector has shown a rise from 1971-1981 (Main) as well as from 1981-1991 (TW), The only sub-sector to show a rise both in absolute as well as the percentage terms from 1971-1991.

From the above observations, we conclude that, within the primary sector, an increasing percentage of workers are finding employment in forestry, fishery, livestock, plantations, etc. The mining and quarrying sub-sector which other wise was the dominant sector with regard to employment in OTAP, has shown a declining trend in employment from 1961-1991 (TW). Angle P (2001) has observed that, the contribution of the mining industry to the State GDP, in relative terms, has been declining over the years. This could have a relation to the declining employment trend in this sector.

Table 4: Sex Distribution of the Infra-Sectoral Distribution of the Workforce in Goa.

Year	TWF Engaged As Agricultural Labourers		TWF Engaged As Cultivators		TWF in mining & Quarrying		TWF in Forestry, Fishery, Livestock, Hunting, Plantation, Orchards & Allied Activities		TWF in the Primary Sector
	M	F	M	F	M	F	M	F	
1971	20,076 (16)	18,220 (14.5)	41,899 (33.4)	18,620 (14.8)	12,634 (10.1)	3,603 (3)	9,247 (7.4)	1,249 (1)	125,548 (100)
1981 Main	16,454 (13.4)	14,102 (11.5)	37,321 (30.5)	21,055 (17.2)	16,036 (13.1)	2,949 (2.4)	12,419 (10)	2,164 (1.8)	122,500 (100)
Marginal	3,723 (10)	12,316 (32.8)	4,236 (11.3)	15,236 (40.6)	256 (0.7)	149 (0.4)	760 (2)	863 (2.3)	37,538 (100)
Total	20,177 (12.6)	26,418 (16.5)	41,557 (26)	36,291 (22.7)	16,292 (10.2)	3,098 (2)	13,179 (8.2)	3,027 (2)	160,038 (100)
1991 Main	19,169 (15.5)	16,115 (13)	35,201 (28.4)	21,327 (17.2)	13,184 (10.6)	3,248 (2.6)	13,454 (11)	2,163 (1.7)	123,861 (100)
Marginal	2,043 (9)	7,448 (32.2)	2,136 (9.2)	9,972 (43.2)	137 (0.6)	113 (0.5)	418 (2)	832 (3.6)	23,099 (100)
Total	21,212 (14.4)	23,563 (16.1)	37,337 (25.4)	31,299 (21.3)	13,321 (9.1)	3,361 (2.3)	13,872 (9.4)	2,995 (2)	1,46,960 (100)

Source: Census of India, Goa, Daman and Diu, Economic Tables, 1971, 1981, 1991.

The following observations can be drawn from Table No. 4.

1. The total male workforce in the primary sector working as agricultural labourers shows a fall from 1971-1981 (Main) in both absolute and percentage terms.

However, from 1981-1991 (TW) there is a rise in both absolute and percentage terms, in the total male workforce employed as agricultural labourers in the primary sector, From 1971-1981 (Main), there was a fall of 2.6% points. From 1981-1991 (TW) there was a 1.8% point rise.

2. As regards the female workforce engaged as agricultural labourers there was also a fall in absolute as well as in terms of percentage from 1971-1981 (Main). The percentage fall was 3% points for this decade. From 1981-1991 (TW), we note once again a fall in absolute as well as percentage terms. The percentage fall was negligible *i.e.* 0.3% points from 1981-1991 (TW).

We conclude from the above, that the percentage of the male workforce employed as agricultural labourers in the primary sector, shows a positive trend compared to that of the female from 1981-1991 (TW) though there was a fall from 1971-1991 (Main).

3. The total male workforce working a cultivators in the primary sector, shows a decline both in absolute as well as percentage terms, from 1971-1981 (Main). It declined by 2.9% points from 1971-1981 (Main). From 1981-1991 (TW), we also note a fall in both absolute as well as in terms of percentage. The fall in percentage terms was marginal *i.e.* 0.6% points from 1981-1991 (TW).

We conclude that a lower percentage of males are employed as cultivators in the primary sector.

4. With regard to the female workforce employed as cultivators in the primary sector, we note that there was a rise both in absolute and percentage terms from 1971-1981 (Main). The rise was 2.4% points from 1971-1981. From 1981-1991 (TW), we note a fall in both absolute as well as percentage terms in the total female workforce employed as cultivators in the primary sector. The fall was 1.4% point from 1981-1991 (TW).

Thus, we conclude that the percentage of females employed as cultivators have also declined in the primary sector. However, we note that, from 1971-1991 (Main), there has been a fall in the percentage of the male workforce engaged as both, agricultural labourers as well as cultivators, but a rise in the percentage of the female workforce in the case of cultivators.

5. The total male workforce employed in the sub-sector of mining and quarrying rose both in absolute as well as percentage terms from

1971-1981 (Main). In percentage terms, the rise was by 3% points for this period. However, from 1981-1991 (TW), there was a fall both in absolute as well as percentage terms. The fall in percentage terms was by 1.1% point.

6. With regard to the female workforce employed in mining and quarrying in the primary sector, we note a fall both in absolute and percentage terms from 1971-1981 (Main). In percentage terms, the fall was by 0.6% points. From 1981-1991, we note a rise in the absolute number as well as percentage of the female workforce in mining and quarrying, although, the rise was marginal. In percentage terms, it was 0.3% point. From the above, we conclude that, although, the absolute number and percentage of males employed in mining and quarrying, continues to be higher than that of the females, their absolute number and percentage is decreasing from 1981-1991 (TW).
7. In the sub-sector of forestry, fishery, livestock, hunting, plantations, orchards and allied activities, we note that, the total male workforce in the primary sector employed here, rose both in absolute as well as percentage terms from 1971-1991. From 1971-1981 (Main) the rise was by 2.6% points and from 1981-1991 (TW), it was by 1.2% point. This is the only sub-sector in the primary sector, that shows a rise in both absolute and percentage terms in the male workforce from 1971-1991.

We conclude from the above, that in OTAP, this sector is emerging as the main employer for males overtaking mining and quarrying.

8. With regard to the female workforce in this sub-sector, we note a rise in absolute as well as percentage terms from 1971-1981 (Main). The percentage rise was 0.8% point. However, from 1981-1991 (TW), we note a marginal fall in absolute terms and the percentage remained the same *i.e.* 2%.

We conclude from the above, that the highest percentage of males in the primary sector are employed as cultivators, followed by agricultural labourers, forestry, fishery, livestock etc. and then in mining and quarrying. The highest percentage of females are found engaged as cultivators, followed by agricultural labourers, mining and quarrying and then forestry, fishery, livestock etc.

The percentage of the male workforce in the primary sector in forestry, fishery, livestock etc. shows a rise from 1971-1981 (Main), whereas in the case of females the rise in the case of cultivators, and forestry, livestock, fishery, etc. from 1971-1991 (Main).

Policy Implications

We have noted in this paper that, although, agriculture proper in the primary sector, still employs a large percentage of the workforce as per the 1991 census data, the percentage of employment here is decreasing and more people are finding employment in 'Other Than Agriculture Proper' (OTAP). Normally, this would be welcomed, but, in the case of Goa, this shift of the workforce is not because agriculture has developed and therefore, requires relatively less workers but, because it was found to be a low remuneration employment.

Agriculture is a much neglected sector in Goa. Angle P. (2001) states that, "although statistically over 60% of Goa's working population was engaged in agricultural pursuits, this sector contributed hardly 16 per cent of the state's income in 1960. Even four decades later, the position in this regard is no different then what it was in pre-liberation days and the contribution of agriculture to Goa's Net Domestic Product is around 15 per cent, whereas at the national level, it contributes around 30 per cent of the national product." This is indicative of the fact that, the Government of Goa has to take strong measures to encourage agricultural development in Goa.

The Tenancy Act of 1964 has been largely responsible for this scenario. The aims of the Act were noble *i.e.* to provide security to the tenants and thus induce them to increase production, by making them the owners of the land they cultivate. But this goal has not been met as, many tenants did not cultivate that land except a small area that would produce for their home consumption. The lands have many a times been kept fallow and subsequently sold for non-agricultural purposes at a high market price. This legislation also resulted in small size of operational holdings as, the land was divided among the tenants. Infact, the Agricultural Census of 1990-1991 shows that 81% of holdings are under 1.0 hectare. As long as this prevails, agriculture in Goa will suffer. So an effort has to be made to consolidate these holdings in the form of co-operatives and make production more economically viable. This can be a step the Government of Goa can take to increase agricultural productivity in the state and make agriculture a more lucrative avenue of employment.

It is no doubt a healthy trend that employment in OTAP has increased from 1961-1991, but the percentage of the total workforce in the primary sector employed here is still very low *i.e.* 22.8% in 1991. In OTAP, Mining and Quarrying and Forestry, Fishery, Livestock etc. are the two sectors considered. From 1961-1981 a higher percentage of the workforce was engaged

in Mining and Quarrying in OTAP but in 1991, this percentage declined compared to Forestry, Fishery etc. and this is not surprising. Minerals are a non-replenishable resource and as mining has gone on for the last so many years the possibility is always there of a depletion in this resource. So, we cannot always rely on this sub-sector for employment. Besides, mining poses an environmental risk, as it is ecologically unfriendly. Very often, large excavations of the over-burden and rejects are dumped on surrounding land, resulting in adverse on forestry and agriculture. Forestry, fishery, livestock, plantation and other allied activities should be developed, so that people can increasingly find employment in this sub-sector.

The fishery sector can be developed to provide more employment opportunities. Goa, with a coastline of 105 kms., inland waterways and a good number of tanks, is capable of producing quantities of fish, that can satisfy the requirements of the locals as well as areas across the borders. Data shows that, export of marine products from Goa has shown a decline over the period 1994-1999. The quantity has decreased from 17,153 tons in 1994 to 9,054 tons in 1992. This has to be looked into and measures have to be taken to reverse the trend.

Sugarcane, rubber and oil palm are the chief commercial crops of Goa. Their production should be increased by suitable incentives. This can be another source of revenue for the government and employment for the people.

Forests in Goa suffered losses due to the cultivation by *cumerins*¹ which was carried out by burning the trees and using the ash to turn the land fertile and also by mining activity. Forests can be a source of revenue, besides its importance in maintaining the ecological balance of the place can by no means be undermined.

Conclusions

We therefore conclude that, in Goa, there is a shift in the employment pattern in the primary sector from 1961-1991. We find that an increasing number of people in the Primary Sector, are finding employment in OTAP as compared to Agriculture Proper. In OTAP, the sub-sector of Forestry, Fishery, Plantations, Livestock etc. is providing more employment compared to Mining and Quarrying.

With regard to the sex distribution, we find that more males are employed in both Agriculture Proper as well as in OTAP from 1961-1991. Within OTAP, males as well as females are increasingly finding employment in Forestry, Fishery, Livestock, Plantations etc. from 1971-1991 (Main).

NOTES

1. System of burning the wood

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