Temporary and Permanent Migration in Six Villages in the Semi-Arid Tropics

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Abstract

This paper provides a descriptive introduction to changes in the magnitude and duration of migration in six Indian villages in the Semi-Arid Tropics between 1975 and 2005. Migration has been split into two components: temporary migration which consists of movements away from the villages for short-term periods of work and permanent migration consisting of individuals who are no longer considered residents of the villages. Since the onset of surveying in 1975, the study has registered a substantial movement of individuals and households into and out of the six villages. In the earlier period, migration flows consisted predominantly of permanent movements and were limited in size. Surveys conducted in 1992 and after 2002 indicate that temporary migration had become an occupational choice for some households in the villages. This paper describes the nature and scope of these migration flows and summarizes some basic socioeconomic features of these households.

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1 Introduction

The mobility of individuals and households between occupations, sectors of the economy and industries is seen as an important force in the process of development. Few data-sets are able to capture the movements of individuals across geographic locations since, by the very nature of their mobility, these individuals are difficult to keep track of. The Village Levels Studies (VLS) at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India provide an unique opportunity to examine movements of individuals over time. This paper provides a descriptive introduction to temporary and permanent migration streams in six rural villages in Andhra Pradesh and Maharashtra, India. The paper is based on three separate periods of data collection: 1975-1984, 1992 and 2001-2005.

The first section of the paper introduces the data in greater detail and discusses the samples that will be used. A total of 5058 individuals have been covered by the VLS during the 15 years of surveys over the course of 30 years. The concept of a household as the natural unit of study becomes increasingly clouded as household members die, form new households of their own or migrate away. Therefore we use both individuals and households as the basis of analysis in this paper. The second section of this paper examines migration streams over time. The individuals residing in the villages between 1975 and 1984 provide a natural base from which to assess permanent migration. The long window of time that has passed since the villages were surveyed allows us to look at the mobility of an entire generation and allows us to abstract ourselves from the somewhat cloudy division of permanent and temporary migration.

2 Data

The VLS was initiated in May 1975 at six villages in Andhra Pradesh (Aurepalle and Dokur in Mahabubnagar) and Maharashtra (Shirapur and Kalman in Sholapur, and Kanzara and Kinkheda in Akola). The survey was further expanded to include 2 villages in both Gujarat (in 1980) and Madhya Pradesh (in 1981). The intensive and meticulous surveying procedures followed by ICRISAT led to the generation of one of the most influential and illuminating data sets in development economics. Information from 40 households was collected in each village using 12 questionnaires designed to cover the key aspects of income generating and consumption activities of agricultural households. Data on transactions, income and consumption was collected on a 3-4 weekly basis, whilst data on assets was collected on a yearly basis. The sample in each village was stratified by land holding size rather than providing a representative sample of the village; a given year of data therefore covers small, medium and large landholders and landless laborers in equal proportion. Between 1975 and 1984, the VLS lost 26 of its original households due to sample attrition. ICRISAT kept the sample size intact and representative by replacing the households that dropped out of the survey with households from similar landholding categories. Income, labor and consumption aggregates in the 1975-84 period were not collected in every village in every year with the same quality (see Townsend 1994). We refer the interested reader to the ICRISAT Manual (1985) and Walker and Ryan (1990) for more detailed information regarding the panel between 1975 and 1984.

Four of the six original ICRISAT villages were revisited in 1992; two villages were dropped due to an increased survey burden as a result of attempting to pick up household splits. Kalman and Kinkheda in Maharashtra were dropped since inter-district variability was considered to be

greater than intra-district variability. Attempts were made to resurvey as many of the old-VLS households and split-offs (consisting of households of individuals who had separated from the old households) of old VLS households as possible. A total of 199 (split-off and continuation) households corresponding to 132 original households were picked up in a three-round panel. Households were surveyed over 3-4 months during the 1992-93 agricultural year. The format and scope of the survey conducted in 1992 varies quite considerably from that used in the old-VLS, with a greater range of questions on health and nutritional indicators. Whilst questions on income generating activities and household assets were asked, the nature of the questions make it difficult to recover accurate data on the values of income and assets. Interested readers should refer to Chung (1994).

ICRISAT resumed data collection on the VLS villages in 2002 (covering the agricultural year 2001/02). At that time, the aim was to obtain a representative sample of the village including many of the original households (based on those that were still in the survey by 1984) and supplemented by others to restore representativeness of different land holding classes. The panel was expanded to 446 households when data collection recommenced in 2001. 264 of these households contained individuals present in the earlier period. The household surveys used in 2001 were designed to be compatible with the intensive surveys conducted between 1975 and 1984. The data emanating from the earlier period was collected using an intensive three-weekly survey methodology, whereas the data emerging from the later rounds were collected using a yearly recall at the termination of the agricultural year. The comparability of the two rounds is compounded by changes in the Indian economy between 1985 and 2001, including a series of economic reforms in the early 1990s. These patterns can be seen in the greater number of consumer goods owned by individuals and the greater extent of non-agricultural income generating activities available to individuals within the villages in the later period. The comparability of the two periods is discussed in greater detail (Badiani et al. 2006). We will only present here the essential aspects necessary to the understanding of this paper.

In 2005, surveys were collected on all individuals related to the earlier and later VLS (4,796 individuals living in 1,398 households, of which 619 households are available in the village and 734 households were migrant households; from the 40 original households in 1975, the VLS traced 1964 individuals living in 939 different households, of which 546 were households residing elsewhere and 393 were households in the village). From 2005/06, all households in the village linked to the earlier and later VLS were surveyed using an intensive monthly survey, which were designed to ensure full comparability with the earlier VLS. The next stage in tracking was to find and survey all individuals identified as having migrated from the VLS villages.

3 Migration in the VLS

3.1 Why is migration of interest?

Since the VLS commenced in 1975, the study has registered a substantial movement in the individuals and households into and out of the six villages. In the earlier VLS period, migration flows were limited in size and consisted predominantly of permanent movements. The surveys conducted in 1992 indicate that temporary migration had become an occupational choice for some households in the villages. These trends are supported by data collected, in which

temporary migration can be seen as an important employment mechanism for some households between 2001/02 and 2004/05.

The changes in the nature and magnitude of temporary and permanent migration flows witnessed during this period in the VLS villages appears to be reflective of overall migration trends in India. Using data from the National Census, Roy (1991) reports that internal migration (as measured by individuals no longer residing at their place of birth) increased from 166.7 million to 207.6 million migrants between the 1971 and 1981 rounds. Estimates of the number of short-term or temporary migrants in India are based upon informal estimates due to a lack of nationally (and indeed locally) representative dataset on short term migration (Deshingkar 2005). Available evidence suggests that the number of temporary migrants has increased during the 1980s and 1990s in eastern (Ghosh and Sharma 1995) and in western India (Bremen 1996). Deshingkar (2005) estimates that approximately 30 million people migrate temporarily every year. However, even these high estimates may underestimate the true size of the migrant workforce: estimates by the ILO suggest that there are up to 50 million male workers in brick kilns alone across India.

3.2 Migration trends then and now

3.2.1 Migration between 1975 and 1984

Both permanent and temporary migration have been prevalent in the VLS since the earlier rounds, albeit at a smaller magnitude. Of the 40 households in each of the six villages in 1975, approximately 10% had migrated by 1984: 35 were left in Aurepalle, 40 in Dokur, 32 in Shirapur, 35 in Kalman, 36 in Kanzara and 35 in Kinkheda. Townsend (1994) provides a brief analysis of households who dropped out of the survey between 1975 and 1984. He finds that dropout households are for the most part either classified as landless or are households with relatively high labor earnings. Non-random attrition due to migration may clearly imply that the long-term dynamics of consumption and income patterns (Rosenzweig 2003) seen for the households remaining in the villages are not reflective of those for the whole original sample.

Whilst data on temporary migration was not systematically picked up in the earlier VLS, Walker and Ryan (1990) provide qualitative evidence indicating the prevalence of this form of migration in the earlier period. They report that temporary migration was likely to have increased in Aurepalle and Dokur post 1983 as a "response to off-farm opportunities, mainly rickshaw pulling and construction work in Hyderabad". In these two villages, approximately 40% of households contained an individual who left the village for employment purposes in the agricultural year 1985-1986 (Walker and Ryan 1990). The authors document the early presence of more formal arrangements expediting migration, with the presence of subcontractors in Dokur allowing villagers to migrate for periods of five to eight months. Whilst there is no substantive evidence on the magnitude of the flows of migrants, movements were considered small enough to be considered of no significance to previous studies of the ICRISAT villages.

3.2.2 Migration in 1992

Data on temporary migration is available for a subset of 4 of the 6 villages (with the number of original and split-off households linked to the old-VLS surveyed in brackets): Aurepalle (64),

Dokur (39), Shirapur (49) and Kalman (45). Data was collected on all individuals who left the village for at least a week during one of the 3 four-monthly rounds. The purpose of migration was recorded, along with the number of weeks for which the individual was absent and whether any monetary transfers were made between the migrant and the members of the household still residing in the village. A large number of households reported having at least one member leave the village for employment purposes during the course of the year: 26 (45%) in Aurepalle, 15 (39%) in Dokur, 14 (29%) in Shirapur and 10 (22%) in Kalman. The higher rates of migration seen in the villages in Andhra Pradesh continues to be the case post-2001.

The data on temporary migration in 1992 allows us to examine the longer-term characteristics of households engaging in temporary migration since we have information on individuals and households pre and post the migration episode. Table 1 summarizes the characteristics of migrant versus non-migrant households. The sample used consists of 291 individuals linked to 88 households in the survey between 1975 and 1984, 111 households in 1992 and 215 households by 2002. All values are individual weighted, even for household level indicators. A migrant household refers to a household that contained at least one temporary migrant for work purposes in the 1992 round of the survey. A migrant for work purposes includes all those employed, seeking employment and engaged in "service" or government occupations. Of the 1025 working age individuals surveyed in 1992, 123 individuals declared having worked outside of the village at some point during the year.

The descriptive statistics summarized in Table 1 highlight a number of key features of households who engaged in temporary migration during 1992. The data are split by migration status. Temporary migrant households in 1992 appear to be more educated and wealthier (in terms of land assets) at the time of undertaking migration. By 2002 the income and non-productive asset differences between the two groups are substantial: the income and assets per capita of households who temporarily migrated are respectively 30% and 50% higher than those who did not, whilst in the earlier period the levels of assets and income for the two groups were quite similar. A number of stories may lie behind these differences: are the individuals or households who engaged in temporary migration those who are more motivated to seek new opportunities or those who are less averse to risk, and those who would have done better than the rest of the sample even if they had remained in the villages? Did remittances from temporary migrants prevent households from engaging in costly risk management mechanisms and promote investment? Were those households who temporarily migrated more able to take advantage of changes and opportunities in the village and broader labor markets? Whilst examining which of these explanations is relevant is beyond the scope of this paper, distinguishing between these (and many other) explanations is vitally important for understanding whether indeed access to income from temporary migration has been a factor contributing to the growth of these households.

Table 1: Characteristics of Temporary Migrant households.

	Continuation sample – Temporary Migrants in 1992					
	1983 Sample		1992 Sample		2001 sample	
Number of observations	Non-migrant	Migrant	Non-migrant	Migrant	Non-migrant	Migrant
Demographics						
No. members	7.98	7.09	6.70	7.07	6.02	5.52
No. male adults (15 –55)	2.38	1.82	1.23	2.15	1.91	1.46
No. female adults (15 –55)	1.95	2.02	1.26	2.28	1.62	1.30
HH Average Yrs. schooling	1.39	1.80	1.91	2.83	4.6	4.73
Male adult avg. schooling	3.09	3.47	3.78	5.34	5.28	7.14
Female adult avg. schooling	0.99	1.09	1.71	2.65	2.8	3.55
Productive assets						
Area owned (ha)	3.92	4.09	2.95	3.68	2.67	2.78
Area owned per cap	0.49	0.52	0.43	0.44	0.46	0.55
Income per capita						
Total income	650.3	658.6	-	-	1636.2	2123.7
Agriculture	427.5	491.6	-	-	631.3	611.7
Livestock	114.7	109.0	-	-	20.0	49.2
Trade	130.2	67.5	-	-	493.4	630.3
Transfers	-21.9	-9.5	-	-	78.7	13.8
Labor	264.9	245.7	-	-	300.1	369.2
Migration	-	-	-	-	78.8	74.2
Household assets						
Consumer durables	567.0	665.8	-	-	2125.1	3093.2
Jewelry	1220.3	1222.7	-	-	420.4	365.4
Electronics	51.1	28.3	-	-	676.4	847.2
Transport	26.3	58.0	-	-	563.1	1040.2

The sample used consists of 291 individuals linked to 88 households originally in the survey between 1975 and 1984, 111 households in 1992 and 215 households in 2001. A migrant household refers to a household which contained at least one temporary migrant for work purposes in the 1992 round of the survey. A migrant for work purposes includes all those employed, seeking employment and engaged in "service" or government occupations.

In addition, the individual characteristics of temporary migrants are quite distinct. Table 2 provides a brief summary of the demographic characteristics of temporary migrants. Two samples are used in this table: firstly labor market data is available for 610 individuals present in 1992 and between 2002 and 2005 whilst demographic data is available for the 1091 individuals from 1992 re-interviewed/located in 2005. Migrants have a higher level of education than the average in the sample at all ages. Individuals who engaged in temporary migration in 1992 also have much higher rates of permanent migration (for work purposes) and temporary migration post-2000 than those who did not. This would suggest that temporary migration, often described as a short-term income generating activity or coping mechanism, may be part of a longer-term strategy. The corresponding household figures suggest that this may be the case at a household as well as at an individual level. At a household level, 37% of households with a temporary migrant in 1992 had at least one temporary migrant between 2001 and 2004, compared to 29% for non-migrant households in 1992. On an individual level, 45% of migrants in 1992 were still conducting temporary migration in 2001-05 compared to 17% of non-migrants.

We can examine whether migrants and non-migrants can be distinguished on the basis of observable characteristics by estimating a simple binary choice model. The estimates of the determinants of the decision to temporarily migrate are reported in Table 3. The individual characteristics controlled for are the age, sex, education, relationship to the household head, basic household characteristics (including landholdings, the size of the household and characteristics of the household head), household caste and some interactions of these variables. Some of these characteristics are clearly choice variables which are likely to be correlated with unobserved household characteristics and preferences. This is the rationale for estimating a second regression including household fixed effects. The second specification examines migration choices within the household.[1]

The second column includes household level fixed effects and is estimated on 371 individuals within the 60 households which have at least one temporary migrant. The results from the regressions broadly support the basic patterns suggested by the descriptive statistics: being a working age male increases the probability of working, both across and within households. The effect of education on the probability of migrating varies by gender and caste: education has a large negative effect on the probability of temporary migration for women, whilst for men it has little impact. The caste rank index is increasing in caste status suggesting that individuals with a higher caste rank are less likely to migrate. Within the household, the identity of the individual appears to be an important determinant of temporary migration. The base category is the son of the household head. The probability of migration is significantly lower for the household head and spouse. Interestingly the oldest son is also significantly less likely to migrate than the other sons.

1. Note however that individual characteristics such as education may be correlated with individual unobserved characteristics. Since we control for household fixed effects, this would imply that an individual's level of education would be correlated with the deviation of an individual's ability from that of the household mean, i.e. that education choices within the household are based on individual's relative abilities.

3.2.3 Migration post-2001

Temporary Migration

Data on temporary migration using yearly recalls was collected in the new-VLS surveys from 2002 onwards. Information on permanent migrants was collected in 2005, when all individuals from all households linked to the VLS (both the earlier and later rounds) were traced. Table 4 summarizes the rate of migration at a household level. Whilst the number of temporary migrant households is clearly greatest in the villages in Andhra Pradesh, a sizeable fraction of households in Maharashtra report engaging in temporary migration. The number of households engaging in temporary migration fluctuates year-on-year: whilst nearly half the households surveyed in Aurepalle conducted temporary migration at some point between 2001 and 2004, in a given year only a quarter of households reported engaging in it. This suggests that temporary migration is not a permanent income strategy for all households and that some households may be responding to variations in income flows and labor market conditions. The two villages with the lowest rates of temporary and permanent migration are Kinkheda and Kanzara in Akola District, Maharashtra. These two villages were characterized by Walker and Ryan (1990) as being amenable to agricultural production, with their fertile soil and reliable rainfall patterns. The higher levels of income per capita and asset holdings seen in these two villages may partially explain the lower levels of temporary (and indeed permanent) migration from these villages. Other explanations at a village

Table 2: Characteristics of Temporary Migrants in 1992 and 2001-2005.

	Individuals who temporarily migrated for work purposes			
	In 1992		In 2001-2004	
	Non-migrant	Migrant	Non-migrant	Migrant
Number of observations	(1004)	(86)	(1617)	(197)
Age	24.9	27.8	29.1	28.1
Yrs. of schooling in 1992/2005	2.14	5.44	4.75	6.06
Male	46.9	82.7	49.7	80.7
Permanent migrant by 2005	5.2	28.7	3.8	11.2
Labor market status in 2001-2005?				
Number of obs	(568)	(42)	(1617)	(197)
Temporary migrant 2001-2005	17.4	45.2	-	-
Non-farm work 2001-2005	22.5	34.2	4.0	10.7
Village labor market 2001-2005	46.8	60.5	23.8	35.4

1992 descriptive statistics: The sample used consists of 1091 individuals tracked in 2005. The labor market status in 2001-2005 is defined over a sub-sample of 610 individuals who were present in 1992 and 2001/2-4/5. 2001-2004 descriptive statistics: The sample used consists of 1814 individuals present between 2001 and 2005 of which 197 engaged in temporary migration for work purposes at least once between 2001 and 2005.

Table 3: Probability of Temporary Migration in 1992.

	Migration 1992	Migration 1992-household FE
Age	0.13	0.308
	(0.024)***	(0.051)***
Age squared	-0.002	-0.004
	(0.000)***	(0.001)***
Household head	-0.304	-1.60
	-0.422	(0.699)**
Spouse of head	-0.568	-2.678
	-0.394	(0.738)***
Oldest son	-0.128	-0.698
	-0.234	(0.405)*
Daughter of head	-0.238	-1.182
	-0.417	(-0.643)*
Other relatives	-0.539	-0.460
	-0.417	(-0.460)*
Years of schooling	-0.19	-0.262
	(0.086)**	(0.095)***
Male	0.312	1.121
	-0.301	(0.556)**
Sex*schooling	0.185	0.197
	(0.082)**	(0.086)**
Caste*schooling	0.002	0.006
	(0.001)**	(0.002)***
Area per capita (ha)	-1.204	-
	(0.648)*	-
Area per capita sq. (ha)	-0.035	-
	-0.107	-
Age of household head	0.131	-
	(0.052)**	-
Sex of household head	-0.027	-
	-0.225	-
Schooling of household head	-0.001	-
	-0.028	-
Age squared of household head	-0.001	-
	(0.000)**	-
Behrman caste index	-0.022	-
	(0.004)***	-
Caste*area	0.013	-
	-0.009	-
No of observations	1021	371
Chi-sq-test for joint signif.	161.45	200.28

Probit specification; all regressions include village fixed effects. Marginal effects evaluated at the mean of the sample are reported. White-Huber standard errors are given in parenthesis.

level, such as village level infrastructure, are also likely to contribute to the explanation. Since we only have data on 6 villages, these village level factors cannot unfortunately be examined.

Some basic individual and household characteristics of temporary migrants are summarized in tables 2 and 5 respectively. Of the 1,814 individuals continuously present between 2001/02 and 2005, of which 1,325 were of working age, 197 had engaged in temporary migration at some point over the period. The characteristics of temporary migrants and non-migrants in this period mirror those seen in 1992 - migrants are predominantly young males with higher levels of education on average at all ages than the rest of the sample. At a household level, the differences between the income and asset levels and composition of the two groups seem insubstantial. Interestingly, there are substantial differences in the demographic profiles of the two groups: households with temporary migrants have an extra individual in the household and have on average an extra half male in the household.

Table 4: Households with Temporary Migrants.

	AP		MS			
Ag. year	Aurepalle	Dokur	Shirapur	Kalman	Kanzara	Kinkheda
Total households	100	81	88	94	52	31
2001/2	14(14%)	31(39%)	12(14%)	5(5%)	7(14%)	2(6%)
2002/3	25(25%)	33(41%)	11(13%)	4(4%)	1(2%)	6(19%)
2003/4	23(23%)	30(38%)	10(11%)	11(12%)	9(21%)	7(22%)
2004/5	27(27%)	35(40%)	7(8%)	12(13%)	9(21%)	5(16%)
At least once 2001-2004	43(43%)	45(40%)	19(8%)	18(13%)	14(21%)	6(16%)

AP: Andhra Pradesh, MS: Maharashtra. Number of households in which have at least one migrant for work purposes. The figures in brackets are the percentage of households in the village sample who have a migrant.

Permanent Migration

Data on the basic socioeconomic characteristics of individuals who have permanently left the village were collected in 2005. Tracking of migrants was done by asking key respondents in the village to answer individual level questions on behalf of a migrant, as well as conducting a household level survey for each group of migrants. The next sub-section introduces the data gathered on migrants during tracking, and examines the differences between permanent migrants and those who remained in the village.

Between 1975 and 2005, the VLS villages have seen large rates of permanent migration at both an individual and household level. Table 6 reports the status of the 1964 individuals who were present in 1975 and in 2005. Permanent migrants constitute 44% of the individuals still alive in 2005. Of those alive, some 42% were picked up in the new-VLS surveys between 2001 and 2004 - this constitutes 56% of individuals from the original sample still residing in the village.

A flourishing literature has long documented the social processes and structures generating flows of permanent migrants across developing countries. A key insight of these studies is that there is great diversity in the rationale for migration: as a coping mechanism (Bantilan and Anupama 2002), as an income diversification strategy or risk diminishing mechanism (Stark and

Rosenzweig 1989) or as a permanent route out of poverty.[2] The large degree of diversity in the reasons for migration is well illustrated in the ICRISAT data. Key respondents were asked the primary reason for migration. Marital reasons are by far the most commonly stated among the 675 migrants linked to the original households in 1975. This flow is predominantly young and female (at the time of migration), and comprises over half of total migrants. Migration for work related purposes comprises roughly one quarter of migrants.

Table 5: Characteristics of Temporary Migrant Households in 2001/2-2004/05, Pre- and Post-Migration.

HHs with at least one temp migrant versus no migrants in 01-05		
	Non-migrant	Migrant
Number of observations	1617	197
Demographics		
No. members	5.65	6.69
No. male adults (15 –55)	1.53	2.00
No. female adults (15 –55)	1.50	1.79
HH Average Yrs. schooling	4.88	4.90
Male adult avg. schooling	5.72	6.88
Female adult avg. schooling	3.82	3.22
Productive assets		
Area owned (ha)	2.15	2.44
Area owned per cap	0.40	0.35
Income per capita		
Total income	1567.9	1555.3
Agriculture	378.2	264.2
Livestock	193.5	109.8
Trade	394.1	275.4
Transfers	61.0	53.6
Labor	531.3	646.2
Migration	9.72	206.1
Household assets		
Cons.durables	1848.7	1944.4
Jewellery	285.5	321.7
Electronics	477.6	475.2
Transport	745.5	861.1

The sample used consists of 1814 individuals linked to 405 households continuously in the survey between 2001/2 and 2004/5. A migrant household refers to a household which contained at least one temporary migrant for work purposes in the 4 years of surveys conducted between 2001/2 and 2004/5. A migrant for work purposes includes all those employed, seeking employment and engaged in "service" or government occupations.

2 Much attention has been paid to remittances from migration as a means of managing risk or a means of investing in higher return activities. For example, Lucas and Stark (1985) examine three different models of remittance flows: the first suggests that remittances between migrants and their families are motivated by pure altruism, the second is focused on the notion that the motives are purely driven by self-interest whilst the third suggests that the motives for migration lie somewhere between the two. Studies of remittances as a risk diminishing mechanism focus on the correlation of income (and shocks) between the location of migration and that of interest. Stark and Rosenzweig (1989) use the ICRISAT dataset we employ to examine how marriage patterns of women can be interpreted as a means of reducing the variability of incomes. De la Briere et al. study remittance motivations in the Dominican Republic; they find that whether remittances play an insurance role or can be seen as a strategic bequest depends on a number of individual and household characteristics.

Table 6: Status of individuals in the original-VLS survey.

Status by 2005	Full sample of individuals included in 1975-1984 with tracking information in 2005	Of which: included in 2001 survey, ie, in the village and in the sample in 2001
Dead by 2005?	432	24
Migrated by 2005?	675	45
In village in 2005?	857	581
Total	1964	654

Based on attempts to track 1,998 individuals included at some point between 1975-84 in the original households of the 1975-84 sample. The status of 32 individuals is not known. Not including servants.

Permanent migration for work purposes seems to increase throughout the period, particularly towards the end of the 1990s. For those individuals present in the survey in the earlier period, an average of 2.7 people left a year for work purposes between 1974 and 1984. Between 1985 and 1995 this figure rises to 3.8 and by 1995-2005 an average of 10 individuals migrate for work purposes a year. Although these figures are relatively small in comparison to the number of individuals covered in the old-VLS, they may under-report the number of people leaving the village for income related reasons due to the familial co-movement. In addition, since the sample under consideration covers only the old-VLS households the demographic profile of this sample may be weighted against younger migrants as we reach the end of the period.

Table 7 summarizes key socioeconomic characteristics, separating the sample into permanent migrants and non-migrants. The data on migrants is split further into two sub-categories for the major forms of migration: those who migrated for marital purposes and those who migrated for employment purposes. Whilst there is likely to be a great deal of heterogeneity amongst those who migrated for work purposes, the current detail afforded in our data does not allow us to disaggregate them further without running into small sample issues.

At a household level, 73% of households have at least one individual who migrated for marriage, whilst 41% of households have at least one member who migrated for employment. Household income and wealth levels of migrants and non-migrants are similar, in large part since data on income, consumption and wealth are generated at a household level whilst migration often occurs at an individual level. At an individual level, one starts to see more systematic differences between individuals who migrated and those who stayed in the village. Of particular interest are the age and educational attainments of permanent migrants. Permanent migrants for work purposes have higher educational qualifications than those who remain in the village at all ages. Clearly many more men than women migrate for work therefore part of this difference may be attributable to differences in the gender composition of the two groups; constraining the comparison between male non-migrants and migrants for work purposes we find migrants have an average of 7.8 years of education whilst non-migrant males have an average of 5.6 years of education. Consistent with Rosenzweig and Stark (1989), the vast majority of migrants for marital purposes are female.

3.3 Income and Assets Movements in the Villages - Where do Permanent Migrants fit in?

The descriptive statistics discussed above provide an introduction to changes in mobility in the VLS since its inception in 1975. The six ICRISAT villages have seen substantial change along other dimensions during this period. A broad number of indicators of household welfare suggest that households of all landholding sizes who have remained in the village have experienced substantial gains in basic indicators of welfare over time. Table 8 summarizes improvements in welfare seen over the 6 villages between 1975 and 2005.[3] All indicators of well-being, measured in terms of consumption flows or human capital stocks, indicate a substantial improvement since the survey was started in 1975. In particular, income per capita has doubled over the time period whilst consumption poverty has decreased from 76% of the population to 22%. The substantial improvements in monetary indicators of welfare have been accompanied by improvements in non-monetary indicators such as BMI and literacy. Average female literacy in the sample however still remains below that of males; in 2005 the level of literacy for females in the sample still lay behind that of males in the earlier sample and the gap between average literacy of males and females widened over the period. See Badiani et al. (2006) for a more detailed analysis of changes in living standards over the period.

Table 7: Details of the Socioeconomic characteristics by Permanent Migrant Status.

	Non-migrants	Migrants	Marital purposes	Employment purposes
Number of observations	854	671	353	176
Mean income per cap 1975-1984	821(716)	730(609)	730(610)	728 (633)
Mean consumption per capita (food) in 1975-1979	260(101)	237(90)	242(81)	240(95)
Total area operated per capita 1975-1984	0.65(0.57)	0.78(0.79)	0.73(0.73)	0.78(0.80)
Mean number of members per household	8.55 (7.2)	8.43(9.84)	8.14(7.12)	8.39(11.91)
Current age in 2005	48(15)	38(11)	35(8)	41(11)
Age at which migrated	-	23(13)	18(5)	30(12)
Read/write	58%	75%	77%	79%
No. education	76%	66%	69%	54%
Primary	9%	13%	15%	13%
Middle	14%	16%	16%	21%
Higher and above	1%	4%	0%	12%
Sex (% male)	61%	32%	2%	90%
What happened to individuals within the household, given their relationship to the head?				
Household head	88%	12%	0%	71%
Spouse	83%	17%	0%	8%
Son	69%	31%	4%	85%
Eldest son	67%	32%	9%	82%
Youngest son	75%	25%	13%	67%
Daughter	7%	93%	91%	2%

3 Since data for all indicators was not collected for all villages and all years, the samples used for each indicator vary in the period covered. The sample examined is all individuals linked to the old-VLS, therefore all values are individually weighted.

In addition, the villages have seen an increase in labor market activity across the board with households engaging in more days of agricultural and non-farm work per working age male, as summarized in table 9. Unfortunately, the data collected between 2002 and 2005 does not contain details of own-farm work during this period, so it is not possible to ascertain whether this increase in labor market activity has been accompanied by a diminishment of hours worked on the household's own land, whether it has been accompanied by an overall increase in hiring or whether it represents a shift away from agrarian activities as the most predominant income generating activity. Since the old-VLS sample was not constructed to be representative of the village, we cannot say whether an increase in the number of days worked on the agrarian labor market translates to an increase in the use of hired labor in the village as a whole. The increase in the amount of labor market activity has however been accompanied by a substantial decrease in the percentage of income from agrarian activities in 2001. For the continuation sample (those who were both in the village between 1979-1984 and 2001-2004) the percentage of income generated from cultivation has decreased from 44.3% in the earlier period to 29.3% in the later period. This is suggestive of a general move away from agriculture, although agriculture clearly continues to be a substantial source of income for these households.

Whilst the data within the village suggest broad improvements in the standard of living across both cultivator and landless households, it is not clear that the changes for individuals who remained in the village are likely to be the same as those for individuals who have left the village. Migrants for work purposes tend to have higher levels of education than those who stayed. Educational attainment may well be correlated with other factors contributing to growth and may also be related to other unobservable characteristics of the population, such as ability and motivation. In addition, of those who migrated for work purposes, 72% migrated to urban areas, which makes it particularly difficult to gauge welfare of this subgroup using data from rural occupations. It is therefore likely that the growth profiles of migrant populations can only be clarified using further data on migration such as those collected by ICRISAT in 2006.

4 Conclusion

This paper has examined changes in the magnitude and duration of migration in the six Indian ICRISAT villages between 1975 and 2005. Migration has been split into two components: temporary migration which consists of short-term periods of work related migration and permanent migration consisting of individuals who are no longer considered residents of the villages. At the outset of the VLS, permanent migration predominantly consisted of migrants for marital purposes. The stream of individuals and households permanently leaving the villages for work purposes has increased considerably since this stage, from just under 3 work related migrants per year between 1975 and 1980 to 10 between 1995 and 2005.

Temporary migration flows have also changed considerably since surveying began. At the outset of the survey in 1975, the rates of temporary migration within the villages were viewed as minimal enough to not be of concern. By 1992 the proportion of households conducting temporary migration reported in some villages was over 40%; the data collected in the village since 2002 support the view that temporary migration has become a substantial source of income for some households. Temporary migrants are almost exclusively male and have higher levels of education at the time of undertaking migration. Whilst at the time of migration in 1992 there are insubstantial income and asset differences between households who have a temporary migrant

and those who do not, by 2002 the income and non-productive asset differences between the two groups are substantial: the income and assets per capita of households who temporarily migrated are respectively 30% and 50% higher than those who did not. The substantial differentials in growth between the two groups raises interesting questions about the cause and consequences of temporary migrants, notably, whether it is the process of engaging in temporary migration that allows households to gain a higher level of income or whether the households who choose to engage in this income generating activity are different, for example in their motivation or ambition, from those who don't. Households that engage in temporary migration in 1992 have substantially higher rates of temporary migration and permanent migration by 2005 than those who do not, suggesting that temporary migration may be something more than a short-term income generating phenomena. Greater knowledge on the forces driving temporary migration will help to elucidate these stories.

Table 8: Mean Consumption, Income, Asset and Demographics 1975-84 to 2001-05.

	1975-1984	2001-2005
Assets		
Implements per capita	167	611
Durables per capita	66	392
Total area owned per capita	0.63	0.51
Income and consumption flows		
Total income per capita	816	1745
Total consumption per capita	412	781
Poverty: headcount of consumption poverty	76%	22%
Demographics		
Average male BMI	18.8	19.8
Average female BMI	18.8	19.6
Average male literacy	0.51	0.68
Average female literacy	0.39	0.41

Total area is measured in hectares. Values are in 1975 prices. Consumption refers to household total food and non-food consumption. Total income includes income from cultivation, livestock, labor market activities, remittances, trade and migration. The poverty line used is Rs 500 per capita. See Badiani, Dercon, Krishnan and Rao (2007) for further details on the variables used and sample covered.

Table 9: Changes in Occupational Structure: 1979-84 and 2001-04.

	Continuation sample		Whole sample for each period	
	1979-1984	2001-2004	1979-1984	2001-2004
Demographics				
Number of members in the household	6.1	4.9	6.0	5.1
Number of adults (15+) males	2.1	1.8	2.0	1.8
Number of adults (15+) females	1.9	1.6	1.9	1.7
Farming				
Total income per capita (1983 Rs.)	851.8	1660.0	812.8	1636.9
Total ag. income per capita (1983 Rs.)	456.2	592.9	447.0	469.5
% Ag. Of total income	44.3	29.3	37.3	18.0
Farm days per ha (hired and own)	137.1	80.1	138.7	71.1
Male farm days per ha	63.4	28.0	74.7	45.7
Female farm days per ha	73.7	52.1	64.0	25.4
% of households participating in farming	81.0	70.0	78.5	56.0
Total employment days on hired market				
% labor of total income (1983 Rs.)	43.6	44.0	45.6	45.3
Days of work per adult-household	78.0	146.7	78.1	146.3
Days of work per adult-male	46.6	88.2	46.4	89.5
Days of work per adult-female	31.4	58.6	31.7	56.9
% of households participating	84.5	85.8	78.1	86.3
Off-farm agricultural labor				
Days of work per adult-household	48.4	88.0	51.9	83.1
Days of work per adult-male	18.9	43.1	20.9	37.6
Days of work per adult-female	29.4	44.8	31.0	45.5
% of households participating	69.9	62.6	65.4	62.1
Non-agricultural work				
Days of work per adult-household	22.3	96.8	23.0	79.9
Days of work per adult-male	20.7	70.6	21.2	62.1
Days of work per adult-female	1.7	26.2	1.7	17.7
% of households participating	44.3	36.5	41.4	47.1
Caste occupations				
Days of work per adult-household	50.8	131.7	48.3	109.1
Days of work per adult-male	38.8	74.9	37.7	71.7
Days of work per adult-female	12.1	56.8	10.5	37.4
% of households participating	43.7	18.5	36.5	16.3
Temporary migration				
Days of work per adult-household	-	91.5	-	94.0
Days of work per adult-male	-	74.5	-	68.8
Days of work per adult-female	-	16.9	-	25.2
% of households participating	-	13.1	-	16.7
Involuntary unemployment				
Days of work per adult-household	12.3	14.8	14.4	14.3
Days of work per adult-male	7.0	3.9	6.8	4.5
Days of work per adult-female	7.8	8.4	7.5	9.8
No. of observations	458	574	721	1806

Statistics for the whole sample 2001-2004 are for the six villages. Those for the whole sample 1979-1985 cover three villages - Aurepalle, Shirapur and Kanzara. The continuation sample comprises of 149 households linked to 91 original households in three villages who were present and cultivating throughout the period: both between 1979 and 1984 and between 2001 and 2004. Data are only presented for those households engaging in the activity. Farming income as a percentage of total income is given for households cultivating on owned or rented land. The statistics presented are unweighted. Comparisons between the original and full sample may therefore partially reflect changes in the sampling design across periods.

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