

# Improved Livelihoods In Improved Watersheds: Can Migration Be Mitigated?

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## Abstract

There is compelling evidence from all over India that the temporary migration of labourers (especially rural-urban) is on the increase. While many poor people perceive migration as an opportunity because they can tap remunerative labour markets, the mainstream view remains rather negative and many rural development programmes aim to reduce migration. An important objective of Watershed Development (WSD) programmes has been to reduce rural-urban migration. This paper synthesises the available evidence to show that the relationship between migration and WSD is complex and depends on a variety of factors ranging from rural-urban wage differences, personal aspirations and education levels. It argues that more empirical research is urgently needed in this area. The paper concludes that policy makers should be prepared to face increasing migration levels and embrace accumulative migration as a valid livelihood strategy that can be combined with WSD efforts to create win-win situations for the poor and overall economic development.

## Introduction

Contrary to mainstream views on rural livelihoods, a growing number of “rural” people have lives that are inextricably linked with urban areas. A large number of village studies from different parts of the country conducted in the last five years show a marked increase in temporary migration for work. This includes seasonal migration, circular migration and other forms of short-term migration. While some of these studies are based on resurveys of villages (see for instance the work by Singh and Karan 2001, Karan 2003 in Bihar and Dayal and Karan 2003 in Jharkhand) others have used recall to arrive at this conclusion (Rao 2001 in Ananthapur, APRLP 2003 in Mahbubnagar, Khandelwal and Katiyar 2003 in South Rajasthan, and Grameen Vikas Trust (pers. comm. Meera Shahi) in Madhya Pradesh, Rogaly et al 2001 and Rafique and Rogaly 2003 in West Bengal).

While it is certainly true that people migrate out because there is not enough work locally, interpretations of this phenomenon have varied. The policy and academic discourse has remained rather negative (see for example Breman 1985 on migration in Gujarat and Reddy 1990 on migration in Andhra Pradesh), viewing migration as “forced” and a symptom of rural distress. However many poor people perceive migration as an opportunity that has opened up to them with improved roads, communication networks and the expanding informal economy, not least because it allows them to escape

*Paper presented at International workshop on Watershed Management Challenges organised by the Indian Council of Agricultural Research-International Water Management Institute-International Crops Research Institute for the Semi-arid Tropics, 3-4 November 2004, New Delhi. Forthcoming as chapter in book being published by IWMI.*

highly exploitative patron-client relationships<sup>1</sup> in the village. Many erstwhile disadvantaged communities earn far more through migration than they would ever be able to in their own villages (see especially Deshingkar and Start 2003, Deshingkar 2004a&b, Deshingkar and Anderson 2004, Deshingkar and Grimm 2004, Karan 2003, Rao 2001).

An interesting dimension is the relationship between agriculture, natural resources and migration. A common assumption that underpins many rural development programmes including watershed development programmes is that deteriorating agriculture leads to outmigration and improving the natural resource base and generating employment in rural areas can reduce or reverse migration. This paper synthesises the available evidence on migration patterns in watershed development areas and how policy should address continuing migration. The paper begins with a brief overview of watershed development programmes, in terms of their objectives and coverage. It then provides an overview of watershed evaluation studies that have assessed the impact on migration patterns. Following on from this is a discussion of the factors which cause migration. Finally policy recommendations are presented.

### **Watershed Development In India.**

Currently \$1000 million is invested yearly in watershed development programmes (WSD) programmes that are implemented by a range of Departments at the Centre and State level. The Department of Agriculture and Cooperation implements the National Watershed Development Projects for Rainfed Areas (NWDPRAs). The Ministry of Rural Development implements the Integrated Wasteland Development Programme (IWDP), the drought prone area program (DPAP) and the desert development program (DDP). The watershed approach has been adopted in other schemes for the development of catchment areas, flood prone areas and control of shifting cultivation in North-Eastern Regions. In addition to the Centrally Sponsored Schemes several State Governments are also implementing schemes for soil and moisture conservation on watershed lines. There are also a number of donor-funded and research oriented watershed development projects.

The goal of most watershed projects is to increase agricultural productivity through soil and water conservation and rainwater harvesting at the micro-watershed scale. There are effectively three routes through which the rehabilitation and development of water scarce watersheds is expected to contribute to rural development: Increased agricultural productivity; improved natural resource conservation; and, more equitable and sustainable management of common property resources.

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<sup>1</sup> Although many Marxist analysts such as Olsen and RamanaMurthy have argued that migrant employment contracts are equally exploitative, the bargaining power of labourers has increased significantly where the availability of work has increased vis a vis the labour pool. *Paper presented at International workshop on Watershed Management Challenges organised by the Indian Council of Agricultural Research-International Water Management Institute-International Crops Research Institute for the Semi-arid Tropics , 3-4 November 2004, New Delhi. Forthcoming as chapter in book being published by IWMI.*

## **Halting Migration Has Been An Important Objective Of Watershed Development Programmes.**

In addition to the above objectives, watershed development aims to increase employment through labour-intensive soil and water conservation. Besides the short term effects of watershed development on rural employment, there is a widespread belief that if watershed management (WSD) programmes succeed then they will reduce the flow of migration. WSD implementation can affect migration through an increase in short-term employment as well as long-term productivity gains. The evidence indicates that many WSD programmes do succeed in reducing migration rates at least during the implementation phase. For example a study by the Central Research Institute of Dryland Agriculture (CRIDA) of 37 watersheds located across different agro-ecological zones and managed by a range of different project implementing agencies (PIAs) showed that migration rates had been reduced in nearly all of them and the reduction ranged from 22% in the MORD implemented watersheds to 42% in NGO implemented ones (Sastry et al 2003). Additional employment generated ranged from 20 days /person/ year in government implemented watersheds to 25 days per person per year in NGO implemented ones. This was attributed to the improvement in physical and biological factors: groundwater tables improved by 1.05 meters in arid, 1.57 metres in semi-arid and 1.38 metres in humid areas. The improvement was better in non-government/donor supported PIAs compared to government supported watersheds. Soil erosion and water run-off improved by 25 and 33 per cent. Employment generation improved from 12.5% in arid areas, 25% in semiarid areas and 21% in humid areas. Another large evaluation of 2000 odd watersheds in AP by the State Water Conservation Mission between 1998 and 1999 showed that migration declined between 10 and 40 percent. Other examples are the study by Dilasa, an NGO, in six DPAP WSD programmes in western India launched in 1996 which found a reduction in migration rates (Hanumantha Rao 2000). Similarly the WSD programme in Jhabua, MP has shown a reduction in migration.

Migration reduction impacts seem to be more marked in intensively treated, NGO managed watersheds during non-drought years as shown by preliminary results from the IWMI LEAD project (Jetske Bouma pers comm.) Only in a handful of cases has a near complete halt or reversal of migration been achieved. Examples include the Indo-German watershed Development Programme in Maharashtra and the Integrated Micro Watershed Development Programme of the N.M. Sadguru Water and Development Foundation in Gujarat where very high migration rates of 78-80% were reduced to a "trickle" of around 5%. The duration was also reported to have decreased from roughly nine months to two months. While these successes may be testimony to the outstanding performance of the NGO, there may also be exceptional circumstances as in the case of Ralegan Sidhi where heavy expenditure and the importing of water from other areas made it possible (Sastry et al 2003). Shah's (2001) work in Gujarat also shows that a significant reduction in

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migration was achieved only in the case of households which had benefited from a substantial increase in irrigation. She also notes that employment gains during the project implementation phase may not be sustained afterwards.

On the whole, the impacts of WSD on long-term migration appear to be disappointing; Shah and Memon's 1999 (quoted in Hanumantha Rao 2000) study of WS programmes being implemented in Gujarat since 1995-96 observed that although employment opportunities had increased migration rates had not come down. Similarly a recent review of several watershed programmes in Karnataka and Maharashtra conducted by the Centre for Interdisciplinary Studies in Environment and Development (CISED) and the Society for Promoting Participatory Ecosystem Management (SOPPECOM)<sup>2</sup>, has concluded that the impact of WSD on livelihoods and on migration and employment patterns has not been as significant as the impact on soil conservation.

If viewed against the stated objective of controlling or reversing migration<sup>3</sup>, this could be perceived as a widespread failure of WSD programmes. But given the state of flux in Indian agriculture and urban areas, it is not surprising that migration has continued or even increased. It is important to understand these trends in the overall development context where strong new "pushes" and "pulls" have emerged.

## **Migration Trends**

In addition to the villages studies mentioned before, there are plenty of other examples, many of which continue to be regarded as "anecdotal" and remain undocumented. Project staff and local government officials who are involved in rural livelihood programmes frequently mention the growing incidence of seasonal migration. For example staff of the DFID funded Western Orissa Livelihoods Project estimate that around 300,000 labourers migrate from Bolangir every year. Bolangir is one of the poorest and drought prone districts in the state. Similar numbers have been reported by staff on the Andhra Pradesh Rural Livelihoods Project from Mahbubnagar, a poor and dry district in Andhra Pradesh.

In sharp contrast to the narrative that is developing through micro-studies, macro level data sets and studies based on these tend to underemphasise the importance of migration and may even draw the conclusion that population mobility is decreasing. For instance, the 2001 National census and

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<sup>2</sup> Report of the workshop is available at [http://www.cised.org/research\\_programmes.htm](http://www.cised.org/research_programmes.htm)

<sup>3</sup> See for example the report of the Working Group on Watershed Development, Rainfed Farming And Natural Resource Management for the Tenth Five Year Plan

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1999-2000 NSS data show a slow down in permanent or long-term rural-urban migration rates despite increasing inter-regional inequalities (Kundu 2003). Kundu (pers comm) calculates that rural-urban migration has declined by 1.5 percentage points, even allowing for a decline in the fertility rate, increases in urban boundaries and the emergence of new towns.

The main problem with conventional surveys is that they are unable to capture information related to temporary movement and part-time occupations. This is illustrated very nicely by the Panchmahals study (Shylendra and Thomas 1995) where the village was supposedly completely dependent on agriculture according to official statistics (98.4% of the households and 97.7% of the labour force reported agriculture as their primary occupation in the NSS survey of 1993-94), was actually highly diversified. Roughly 90% of the households were engaged in non-farm activities and migration rates were very high.

It is very likely that short-term migration will continue to increase due to a variety of new pushes and pulls that have become apparent recently. Apart from the constraints in traditional agriculture are new forces of change such as acute population pressure, commodity price crashes, improved infrastructure and urbanisation all of which, as we discuss in the following paragraphs, add to the flow of migration.

### **The 'push': declining opportunities in agriculture**

Situations of surplus labour arising from the scarcity of cultivated land, inequitable land distribution, low agricultural productivity, high population density and the concentration of the rural economy almost exclusively on agriculture have led to a continuous increase in outmigration. Having little access to land in a predominantly agrarian society leaves the landless with few alternatives to migration. In India 80% of the holdings are now small and marginal and per capita net sown area is less than 0.2 ha,

#### *Drought*

Drought is the classic push affecting a growing number of people which exacerbates the problems described above. Nearly two thirds of the arable land in India is rainfed and low potential and this is where the effects of drought are most severe. Natural drought is exacerbated by manmade drought: groundwater exploitation in Western and Southern India has reached unsustainable limits (see several reports by International Water Management Institute).

A majority of the villages in the dry areas stretching across eastern Maharashtra, eastern Karnataka, western Andhra Pradesh, southern Madhya Pradesh, have very high rates of migration. A typical case is the drought-prone Mahbubnagar district in Andhra Pradesh which has had high migration rates for several decades. It is now well known for the legendary *Palamur*

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labourers who work in construction all over India. The neighbouring district of Ananthapur is also highly drought prone and is one of the poorest districts in India. There too seasonal migration has become routine (Rao 2001). In a study in Madhya Pradesh Deshingkar and Start (2003) found that more than half the households in four out of six study villages had migrating members. The proportion was as high as 75% in the most remote and hilly village with infertile soils. In Andhra Pradesh, while average migration rates were lower, the most remote and unirrigated village had 78% of the households with migrating members. Similarly a study by Mosse et al (1997) of the first phase of the DFID funded Western India Rainfed Farming Project (Madhya Pradesh, Gujarat and Rajasthan) revealed that 65% of households included migrants. Another later study in the same area found that in many villages up to 75% of the population is absent between November and June (Virgo et al 2003). The dry areas of Bihar, Orissa, Gujarat and West Bengal are also known for high migration rates. Bolangir a very poor and drought-prone district in Orissa is a striking example. An estimated 60,000 people migrated out during the 2001 drought (Wandshneider and Mishra 2003) alone and as mentioned before current informal estimates are in the region of 300,000. The situation in the arid Panchmahals district of Gujarat (Shylendra and Thomas 1995) is similar where seasonal migration was so high that 44% of the labour force was migrating and the average number of persons migrating from each household was 2.2 including women.

The situation in most of the backward and dry areas of India (nearly two-thirds of the country) is increasingly resembling this because of the low levels of diversification and deteriorating access to common property resources.

#### *Poor mountain and forest economies*

Outmigration has also been historically high from poor mountainous areas of which suffer similar problems of low agricultural productivity, poor access to credit or other pre-requisites for diversification and high population densities. A recent increase in migration has been reported from Uttaranchal by Mamgain (2003) as the fragile mountain ecosystem cannot support increasing populations. The poor mountainous districts of Nepal also have high rates of outmigration (Bal Kumar 2003). More or less the same factors create a push from many forested areas where population pressure has increased and CPR based livelihoods have become unsustainable. A study on linkages between the degradation of common property resources (CPRs), and out-migration in arid and semi arid regions by Chopra and Gulati (2001) found a significant positive relationship between land degradation<sup>4</sup> and out-migration. The very high rates seen from forested tribal areas of Madhya Pradesh are an example of this.

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4 Land degradation was measured through increases in the proportion of sheep and goats in total livestock. Outmigration was measured through increased sex ratio in favor of female). Among other important factors, irrigation was found to have a significant negative impact on out-migration.

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### *Other push factors*

The most recent push factor appears to be a fall in agricultural commodity prices brought about by macroeconomic reforms linked with liberalisation and globalisation policies. Fresh evidence of this has emerged across India. For example, recent research by Ghosh and Harriss-White (2002) in Birbhum and Bardhaman districts of West Bengal suggests that paddy producers are facing heavy losses as prices fell sharply by over 50% since 1999. This situation was created by the reduction of subsidies as well as the de-restriction of inter-State transport which has allowed cheaper paddy to come in from Bihar, as well as from Jharkhand and Orissa where distress sales were occurring. Another example is that of rubber - prices fell to a third of what they used to be five years before because of cheap imports. This has adversely impacted on the 900,000 rubber growers in Kerala of whom 90% are small farmers with less than five acres of land<sup>5</sup>. Similar stories are being reported about tea, groundnuts, rice and many other commodities that were previously remunerative. But there are few other academic studies in this area because it has emerged very recently. Press coverage however, has been extensive<sup>6</sup>. More research is urgently needed in this area.

### **The 'pull': new opportunities in urban-based industry and services**

In the 1950s, development economists viewed the demand for labour created by "growing modern industrial complexes" and the gap in rural and urban wages as the main "pull" factor. There have since been many models and debates on what motivates people to migrate including theories of "expected" as opposed to actual wage differentials. Other pull factors include the desire to acquire skills or gain new experiences. In the case of voluntary migration of the poor for economic reasons, the wage gap is probably the most important pull and the most important recent determinants of this appear to be urbanisation and the spread of manufacturing.

### *Urbanisation*

Urbanisation has become a major driver of internal migration Rates of urbanisation influence rural-urban wage differences: an increase in the demand for labour in urban areas can push up urban wages and increase migration. Rural-urban differences in average incomes increased in many South and East Asian countries during the 1990s, especially in China and fell in most African countries (IFAD 2001, Eastwood and Lipton 2000). Current ESCAP projections are that urbanisation rates in South and Southwest Asia will soon exceed other regions in Asia (Guest 2003). This is already

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<sup>5</sup> India is the fourth largest producer of rubber in the world.

<http://www.hinduonnet.com/thehindu/thscrip/pgemail.pl?date=2002/05/19>

<sup>6</sup> Several articles have been published in The Hindu a respected English newspaper in India, particularly by P. Sainath, an internationally recognised journalist writing on drought, poverty and migration who is known for his book "Everybody Loves a Good Drought".

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beginning to be reflected in the growing importance of rural-urban migration. While rural-rural migration<sup>7</sup> still accounted for roughly 62% of all movements in 1999-00 according to National Sample Survey data there has been a sharp increase in rural-urban migration recently (Srivastava and Bhattacharyya 2003) as more young men travel to work in construction and urban services. For example studies in areas of Bihar that have experienced a doubling of outmigration rates since the 1970s show that migration is now mainly to urban areas and not to the traditional destinations in irrigated Punjab where work availability has declined (Karan 2003). In dry parts of Gujarat it was seen that urban incomes were so lucrative that not even government employment schemes such as the Jawahar Rozgar Yojana (JRY) and irrigation could reduce outmigration (Shylendra 1994).

### **Will migration in WSD areas continue to increase?**

Given the deteriorating situation in heavily populated rainfed areas of the country it is quite possible that migration rates will continue to increase despite efforts to create employment locally.

In addition to the pushes and pulls mentioned previously, there could be other reasons for continuing migration including:

- The additional employment created through watersheds not keeping pace with population growth (and additional labour availability). For example an estimated one million workers are added to the workforce every year in Andhra Pradesh and it is unlikely that watershed programmes can absorb all of these.
- WSD benefits only richer farmers and excludes the growing population of landless and marginal farmers
- The labourer/household no longer wishes to pursue a livelihood system based on agriculture.
- Migration has occurred post-WSD because it has improved the asset base of the household and actually *enabled* it to migrate and explore other more lucrative opportunities beyond the village

This is starting to become apparent in some areas. For example Reddy et al (2001) in a study of WSD in Andhra Pradesh found an increase in the extent of migration when before and after scenarios were compared in all the watersheds studied except one. Even though significant employment was generated during the project period, migration increased afterwards. Their explanation is that this occurred because labour participation increased consequent to the increased demand for watershed works which was then released into the labour market after completion of the works. Earlier studies on watershed development in Maharashtra (Deshpande and Reddy, 1991 quoted in Reddy et al 2001) also found the same.

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<sup>7</sup> Workers from backward states like Bihar, Uttar Pradesh, Orissa and Rajasthan routinely travel to the developed green revolution states of Maharashtra, Punjab and Gujarat for the transplant and harvesting season

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## **How migration can contribute to poverty reduction and agricultural development**

Seasonal migration is often linked to debt cycles and the need for money for repaying debts, covering deficits created by losses in agriculture, or meeting expenditures of large magnitude on account of marriages, festivals, ceremonies etc. Earlier research was very optimistic about remittances being invested in improving agriculture (Oberai and Singh; 1980). Indeed a link between migration money and investment in tubewell irrigation has been suggested by Shah (2004) – in fact earning additional income for developing irrigation facilities has often been reported as the main reason for migration from the dry land regions.

But it is very difficult to separate spending on “consumption” and “production” uses at the household level and the two are very interchangeable. Several studies appear to show that consumption needs take precedence over any investment in productive uses. However spending on consumption may not be a cause for worry in itself as it can contribute to the overall increase in the well-being of the household through for instance better nutrition, education etc.

On the proportion of remittances in overall household income, it was believed by many scholars for a long time that remittances form an insubstantial part of household income. A major proponent of this theory was Lipton (1988) who based his argument on the widely quoted Indian village studies conducted by the Institute of Development Studies at Sussex in the 1970s (Connell 1976) which estimated remittances at 2-7 per cent of village incomes, and less for poor labourers. However, new evidence suggests that this is not necessarily the case. Deshingkar and Start's (2003) research in unirrigated and forested villages of Madhya Pradesh showed that migration earnings accounted for more than half of the annual earnings from labour. In the more prosperous State of Andhra Pradesh, the overall contribution was much lower but in the village that was in the unirrigated and poor north-western corner, migration contributed 51% of household earnings. Research by Mosse et al (1997) of the first phase of the DFID funded Western India Rainfed Farming Project (Madhya Pradesh, Gujarat and Rajasthan) notes that 80% of cash income in project villages was derived from migration. Even where remittances are irregular and small they may play an important role in reducing vulnerability and improving food security.

### **Migration as a Survival or Accumulation Strategy**

While many studies on migration have tended to emphasise the impoverishing effects of migration they have rarely posed the question of what these households and individuals would have done in the absence of the opportunity to migrate. In Indian writings, the term **distress** migration and migration for survival have often been used; explaining migration by the poor as a response to natural calamities and other shocks (Murthy, 1991; Reddy 1990; Rao, 1994, Mukherjee 2001 who calls it “distressed” migration).

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Distress migration has also been noted in a variety of African contexts by the PPAs though not necessarily using the same terminology.

But there is compelling evidence showing that the returns from migration can improve over time as migrants acquire more knowledge, confidence and skills; when they can cut out exploitative middlemen and contractors. The concept of **accumulative** migration (Deshingkar and Start 2003) has been gaining acceptance. Rao's (2001) study of Andhra Pradesh distinguishes between migration for survival and migration for additional income. He observes people from Rayadurga district were migrating for survival in the 1970s but changed to migration for additional income in the 1990s. Another example is Bihar where earlier studies described distress migration and more recent ones such as the one by Karan (2003) describe migration in much more positive terms. In the PPAs synthesised in "Crying out for Change" migration was identified by both men and women as an important factor leading to upward mobility: the importance of migration was greatest in Asia, followed by Latin America and the Caribbean and less so in Africa.

### **When migration is bad for WSD**

A reverse relationship between migration and watershed development has also been shown to exist where migration adversely affects the incentives for community resource management and participation. Concern has also been expressed in the past over the potentially detrimental effects of out-migration on the productivity of sending areas due to the depletion of labour. While some studies have certainly shown a worsening of poverty levels due to the large-scale male dominated migration as in remote areas of Nepal and Africa, more recent research has shown that some of these impacts may be offset in situations where wages in the destination are high and remittance and communication mechanisms are improving as in several parts of India, southeast Asia and China.

An important implication of livelihood diversification is that natural resource-based activities may become part-time and this could have negative consequences particularly for participatory resource management such as watershed and community forestry programmes. Those who are away for long periods of time may not be able to participate in community activities and decision making and their access to resources may be compromised. Adverse effects of migration on watershed development have been documented by Turton 2000 and *Samuha* in Karnataka. Also, in a recent conference on common property resource management<sup>8</sup>, a session was devoted to discuss the adverse impacts of migration on the management of common resources such as forests, water and pasture lands (pers comm. Jetske Bouma, Rahman 2004, Reyes Morales & A Pacheco 2004, Ruis Lopez 2004).

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<sup>8</sup> The bi-annual conference of the International Association for the Study of Common Property (IASCP), 9-13 August 2004 in Oaxaca, Mexico.

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## Policy implications, knowledge gaps and research needs

The present review shows that the WSD-migration link has been addressed by only a few researchers and that too indirectly. Not many have examined the relationship in its entirety: the (positive) effect of additional income; the (negative) effect of labour depletion and reduced collective action and the effect of changing preferences and household behaviour.

What the examples and possibilities illustrate is that the relationship between watershed development and migration is complex and by no means straightforward. In fact any assumptions to that effect are not only inaccurate but could also be damaging by leading to erroneous policy prescriptions. It is therefore important to be able to understand exactly what is likely to occur in particular contexts. Given the increases witnessed recently in migration rates, and the associated increase in the proportion of household income derived from migration, this merits some serious study; a need that has also been noted by other researchers in the field (see for example Shah 2001).

In this, attention needs to be paid to the broader context in which changes are taking place. India is currently going through a transition from an economy that consisted of very large numbers of viable small and marginal farms to one where the structure of agriculture and industry is changing rapidly in response to globalising forces, environmental limits and stresses and population pressure. While new industries and informal sector jobs have emerged in urban areas creating a considerable pull for poor labourers, a stronger push is also being experienced in many rural areas with land fragmentation, drought, groundwater scarcity and falling agricultural commodity prices.

It is very likely therefore that the increases in productivity that are brought about by WSD may not be sufficient alone to stem the tide of migration. A few studies have begun to observe this; for example Reddy et al (2004) document that watershed development alone is not a **sufficient** condition for sustaining rural livelihoods (Reddy et al 2004).

Probably the most important implication for policy is to recognise that migration will continue and this does **not** represent a failure of watershed development programmes. Migration should be viewed as an inevitable part of unequal regional development and although not the perfect way of providing employment to the poor in rainfed farming it is arguably an important mechanism by which the fruits of agricultural development in more prosperous areas are redistributed. There is therefore an urgent need to understand how WSD can become a part of efforts to support more diverse livelihood portfolios where a win-win situation can be created say, through improving the resource base which creates a more conducive environment for investing

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remittances leading to an overall increase in growth, employment and poverty reduction.

Since roughly 66% of the arable land area in India is limited to dryland agriculture due to climatic factors, soil erosion, poor water retention capacity etc. and it is in such areas where migration and watershed development appear to overlap heavily, it is time to find a way of creating a win-win situation where migration is viewed as a viable livelihood option and WSD programmes are designed with that in mind. Therefore plans for participation need to take into account that part of the population will be absent for periods of time. This creates a different requirement in terms of who is represented in local village institutions and who is given what role in local resource management. The gender implications may be greatest especially where male outmigration is high. It also raises the issue of what the goals of WSD should be – creating an improved natural resource base may actually enable more people to migrate.

Mobility and the positive impacts of remittances are being viewed as an important route to poverty reduction and economic development in south east Asian and east Asian countries such as Indonesia, Vietnam, Cambodia and China (Deshingkar and Grimm 2004). Temporary migrants represent much untapped potential in India too and the time is ripe to start thinking about ways of mainstreaming migrant support programmes and migrant incomes into rural development programmes such as watershed development.

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