

## **Examining Temporary Migration as A Solution to the Lean Season; International Experience Indonesia - Yale School of Management**

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### **Introduction**

Our research in Indonesia took as its focus the concept of the lean season, that is, predictable times of scarcity which contribute to large drop offs in productivity, consumption and caloric intake for an affected region and its people. For this research, we partnered with students from Universitas Hasanuddin (UnHas) in Makassar to leverage their knowledge of the local language and broader cultural context. They proved to be invaluable colleagues as we met with the various constituencies across South Sulawesi. We conducted first-person interviews with village leaders, as well as agricultural workers and city employers. Through these formal interactions – and impromptu meetings and conversations too – we were able to get a sense of the viability of a temporary migration scheme like the ones implemented in Bangladesh and Timor by Dr. Mobarak and his team. We made serious effort

to embark on lines of questioning which were open-ended instead of suggestive and, when appropriate and possible, conducted our interviews with individuals as opposed to groups to ward off collectivist thinking. In particular, our questions were meant to illuminate the lived experience of locals around four broad areas of concern: the agricultural calendar, coping mechanisms, migration history and employer insights. The coming pages spell out our findings.

To collect data that painted the most complete picture of the backdrop for any potential migration, our group interviewed farmers of varying degrees of wealth and small business owners who employed migrants. In South Sulawesi, we visited *desa* Bontotangna, Singa, Bontomaran, Tanjonga, Bontojai, and Borongtala to obtain a variety of perspectives. We used markers like television ownership and access to electricity as proxies for wealth as well as information from village heads

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ISSN: 2549-3221 (Print) 2549-323X (Online)  
DOI: <http://doi.org/10.26487/hebr.v1i1.1190>

to determine who would be the best candidates for a migration program and who would be able to give us insight into what it would take to incentivize that behavior during the lean season.

After getting an understanding of the conditions farmers required to migrate to a major city during the lean season, our research refocused on the small business owners who would need to, in turn, accept these migrants into positions with their companies. We spoke to representatives from Fariji and Simon, construction companies, and Mas, a transportation company, 175 kilometers away in the city of Makassar, a hub of business on the Island of Sulawesi and a common destination for villagers looking for work. With both sides of the migration equation in place, we were then able to evaluate whether or not the solution put in place by Dr. Mobarak in Bangladesh should be further explored for possible implementation.

## **Migration History**

### *Migrant Demographics*

Within the households we interviewed, very few people currently migrate seasonally. On average, each group had one family (out of 4-8 interviewed) mention someone who currently migrates. Past migration was much more common, however, as were family members who had permanently moved for a work opportunity. This pattern is likely due to selection bias, as the village heads were unlikely to send us to families where seasonal migration already occurs. This is reflected in the fact that most interviewees knew someone who migrated, either permanently (to Malaysia or Borneo) or seasonally to Makassar or another nearby island or city. The village heads' estimates of seasonal migration varied significantly: in Bulukumba, the village head estimated

that 200 out of 250 families living below the poverty line had someone migrate; in Borong Tala, the village head estimated 20% migrate; in Jeneponto, the village head estimated that all able-bodied men with amenable family situations migrated. Although the village head from Bulukumba said women were more likely to migrate, potential beneficiaries across villages shared that men are more likely to migrate. In general, either a father or son would migrate, as long as they were able-bodied and had someone to watch the children.

### *Understanding Motivations*

For the neighbors who migrated or knew someone who migrated, all of them did so to earn more money, however, there are several different avenues through which they sought higher earning potential. In Jeneponto, it seems like the people who seasonally migrated into Makassar had built a relationship with a store-owner or taxi company and went back repeatedly to that employer because they knew the job would be waiting for them. For these villagers in Jeneponto, there are few other opportunities for generating income in the dry season, so if they were called up with an opportunity to migrate into Makassar, they would generally take it. In Borong Tala, one farmer that migrated sited that the deciding factor for him was that someone came to village to recruit him. In general, support/encouragement from family and friends motivated many farmers to migrate to Makassar. However, there were a variety of reasons that farmers gave for not migrating. In Singa, it seemed like farmers were well-off enough and did not need supplemental income. In Jeneponto, Singa and Bulukumba, farmers were able to find additional revenue streams to make up for the lack of farming income, including fishing, growing seaweed, and selling

clothes. Several farmers did not want to leave their family for long periods of time, and some cited health-related or administrative family responsibilities as the main reason for not migrating. Others were did not want to migrate without the guarantee of a job and/or guaranteed housing. A few farmers mentioned they were too old to work the construction jobs, but in a few cases they had adult sons who were working elsewhere and sending back some money.

### *Migrant Destinations*

Migrants from South Sulawesi target a ring of destinations circling their home villages. Within Sulawesi, they migrate to the major port city of Makassar as well as the smaller regional hubs of Maros and Pinrang, all within several hours of each other by bus. Those who can afford it or who have job connections show willingness to migrate farther afield. The islands of Kalimantan and Bali, followed by Jakarta and Bandung on the island of Java, were also named as migration destinations. Malaysia was among the most frequently named destinations, as it was regarded as a source of higher wages than were available domestically. Due to the higher cost and greater distance as well as to perceptions of elevated risk associated with migration, however, Malaysia appeared to be among the least popular migration destinations among those interviewed. Makassar tended to be associated with construction, retail, and transportation jobs, and Kalimantan was associated with mining and oil-related jobs.

### *Encouraging Migration*

During our interviews, we also asked villagers what significant barriers to migration existed, and what offerings or support might incentivize them to consider migration as a coping

mechanism. One of the first barriers mentioned was the cost of travel. More than the price of a bus ticket, villagers pointed to the general living costs (meals, travel within the city, etc.) that are incurred as part of the job search process as being an investment that they were not necessarily willing to undertake. Additionally, most interviewees expressed interest in returning regularly to the village, on a weekly or monthly basis, to see their families, also increasing travel costs. A guaranteed job, either through a recruiter or through a social connection, made these investments more palatable and lucrative; however, most interviewees required a minimum wage level to make the sacrifice of leaving the village worthwhile. Finally, housing remained a significant concern and was considered prohibitively expensive by some respondents; for these individuals, guaranteed housing was key in the decision to pursue migration.

According to villagers, migration comes with many benefits, as well as many social costs. However, the answers are dependent on the social context of each family and villager. The variables that we found that determine the real benefit/cost are: income, family dependence, gender, age, and skills. When aligned, families listed out the welfare benefits of migrating to urban areas due to the higher earning potential. The wages then correlate with improving meal consumption, access to medicine, and education. However, migration comes with certain risks, such as death, forced isolation, and social/community disruption. Stories of migrants being stranded due to a job falling through or migrants bringing back behavior or people that was toxic to the community. The interviews have highlighted that migration is a known commodity that has been occurring to the benefit and cost of the Sulawesi people. People know

where to go. People know how to get to these regions and jobs. Now, they just need an intervention that would reduce some of the externalities and risks that come with seasonal migration.

## **Agricultural Calendar**

### *Climate Setting*

South Sulawesi is a province in the southern peninsula of Sulawesi and is located between longitudes 117 and 118°. Sulawesi is an island in Indonesia and the world's eleventh largest island<sup>1</sup>. There are currently 21 administrative regencies that make up the South Sulawesi province<sup>2</sup> with the interest of this research being the Bulukumba and Jeneponto regencies where the team visited farming communities and conducted interviews.

The climate in Bulukumba is tropical (specifically the tropical monsoon climate). The average temperature during the year is 26.5°C with very little variation over the year. On average the area gets about 1775mm of rainfall annually with the highest precipitation occurring in May (305mm on average vs 32mm in September which is the lowest month)<sup>3</sup>. This is slightly different for Jeneponto where the climate is the tropical savanna climate. Average temperatures are not much different at 26.3°C all year round but Jeneponto gets a lot less rainfall than Bulukumba with 1216mm of precipitation on average annually. Seasonal differences also show in the data with the peak precipitation occurring in January (272mm) and the driest month being September (6mm)<sup>4</sup>.

### *Rural Economy*

From interviews conducted with village heads in the villages visited, the main consensus is that these are agrarian economies with between 75 – 80% of the

communities deriving their living from farming activities and a small fraction of the population involved in trading activities. These two professions (farming and trading) were not mutually exclusive with instances where the farmer or their wife carried out animal raising and trading to supplement the main income stream. Two staple crops – Rice and Corn – represent the most commonly farmed crops for both consumption and sales in the visited areas. A majority (about 85%) of the farmers interviewed owned their farms which were on average about one hectare (1ha). Sharecropping is also common and in some instances farm owners mentioned working on another farm to increase farming income. Some families also mentioned growing crops on leased land and splitting the harvest with the landowner.

### *Agricultural Practices*

The results of our interviews show that while precise planting and harvest dates vary by year, microclimate, and local habit, the agricultural calendar of South Sulawesi is centered around a wet season that lasts from October to March and a dry season that lasts from April to September.

Most of the agricultural practices are very traditional with minimal use of modern yield improving inputs such as fertilizer, herbicides and pesticides. Labor remains very primitive with most of it being supplied by the farmers' families – no evidence that tractors are employed at the individual or cooperative levels.

Rice can be planted in February and July and harvested in May and November, though many farmers plant only one cycle depending on the level of rain and capital available for buying seed. Corn is often grown in two cycles, with planting in January and April and harvesting in March and July. A common secondary

source of income for families living near the coast as seen in Jeneponto is seaweed farming, which has a fast growing cycle of 3-4 weeks, but is usually planted and harvested during the dry season.

Some families interviewed mentioned boosting their income by harvesting tropical perennial crops such as cocoa, cashew, and coconut. There were also instances of mixed farming where the household also grows, consumes and, where there is an excess, sells beans, legumes, peppers and other vegetables. Most families, including those who were landless, engaged in farming multiple different crops at different points of the year as long as weather permits and they have the capital to purchase inputs. Table 1 below summarizes the calendar observed.

### Summary of Findings

Rice and Corn are the two dominant crops. Perennial crops (coconut, cashew and cacao) cocoa play a significant role in bolstering income throughout the year, and are especially important in reducing the lean season experienced by individual farmers. Beyond this, our results show substantial variation in the timing of different seasons (and planting/harvesting activities) across the different communities.

The two predominant crops are generally grown in two cycles each year, each lasting approximately four months. Although it appears these cycles generally last from January/February to April/May, and from May/June to July/August, there is significant variation between communities. For example, in Jeneponto, both cycles appear to begin and end at least two months earlier, with one respondent reporting a cycle from October to February.

Major discrepancies were found across communities related to the timing of the dry season. While respondents in Bulukumba and Singa (a community in Bulukumba regency) typically reported a dry season lasting approximately from August until December, respondents in Jeneponto reported a dry season lasting from May to September. This difference would partly explain the differences in planting and harvest times as reported in Jeneponto.

It appears that the lean season is relatively consistent across communities suggests that most of the observed variation might be individual due to the use of different coping mechanisms as well as land ownership. Some respondents reported that the lean season begun in July or August and lasted up to five or even seven months. A few respondents

**Table 1:** Agricultural Calendar Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice		p			H		P				H	
Corn	P		H	P			H					
Seaweed				P	H	P	H	P	H			
Cocoa				H	H	H	H	H	H			
Coconut			H				H				H	
Cashew							H	H	H	H	H	
WEATHER	Wet	Wet	Wet	Dry	Dry	Dry	Dry	Dry	Dry	Wet	Wet	Wet
LEAN	X	X							X	X	X	X

P – Planting  
H – Harvest

reported a lean season of only two months (from July to August). Other respondents reported that they did not experience a lean season, as reliance on harvesting a variety of crops during the dry season and some forms trading activity left with them with enough resources throughout the year. Overall information gathered shows a lean season slightly greater than the national average of a 3 month lean season between January and March according to FAO data for maize and corn farmers.

### **Recommendations**

This variety of the agricultural calendar across different communities may suggest that efforts to coordinate seasonal migration between different communities and employers may prove to be effective. For example, if Jeneponto typically enters a lean season two months before Singa, an effort could be made to so that Jeneponto workers go to Makassar first, to be replaced by seasonal workers from Singa two months later.

Several common challenges to seasonal migration as a coping mechanism reported include: relationships with family members, the need to attend to some crops (or other businesses such as goat trading) during the dry season, and the lack of reliable work in urban centers. However, it appears that many families already have one or more members with a history of seasonal migration during the lean season and in some instances permanent migration. Many more families could benefit substantially from seasonal migration if they are able to get to the urban centers and find well-paying, reliable jobs and accommodation.

The results found in this preliminary study could be significantly improved by replicating the study across more communities in the area and increasing the sample size of interviewees.

Socioeconomic mapping to determine the different neighborhoods where individuals should be interviewed would help ensure families of different socioeconomic status are represented in the sample selection. Lastly, the semi-structured interview process we used was greatly inhibited by the need to translate throughout the interviews; the quality of the results would be significantly improved if all members of interview teams were fluent in Bahasa.

One interesting issue that came up was that of the effect of climate change on the agricultural calendar and on crop output. While one respondent reported that rainfall has increased and led to increased crop output in recent years, another respondent said that the weather has gotten worse and led to poorer dry-season harvests. Both of these viewpoints suggest that regional climate has changed, but they contradict each other in terms of how it has changed. A changing climate could lead to a worsened or improved lean season, which would affect the benefit seasonal migration. This is an issue of significant relevance to this study and might be worthy of further exploration.

### **Coping Mechanisms**

Periods between harvests in Indonesia leave farmers susceptible to a “lean season” during which consumption of calories and protein could drop. Farmers need to figure out how to cope with this drop in income and consumption. Coping mechanisms are the means by which farmers choose to cope with a drop in income during the offseason. We have categorized these into:

#### *Productive mechanisms*

These are sustainable, low cost options that allow families to continue adequate

consumption levels without being worse off financially. Our research indicated these productive mechanisms:

- Farming diversification into seaweed and other crops with offsetting crop cycles
- Consumption smoothing through savings
- Seasonal migration
- Use of credit at reasonable, non-extortionate interest rates
- Government food subsidies

#### *Unproductive mechanisms*

These are not sustainable and result in some cost to households. They leave households worse off in terms of both health and finances. Unproductive mechanisms found included:

- Cutting back on protein and calorie consumption
- High interest loans
- Handouts and charity from the

community and neighbors

- Failed attempts at seasonal or permanent migration

Our observations of productive coping mechanisms outnumbered our observations of unproductive coping mechanisms. The productive : unproductive ratio was slightly higher in Bulukumba, the regency closer to Makassar. The prevalence of productive mechanisms in Bulukumba could have been due to proximity to Makassar. Our conclusion from this area of inquiry was that programs that target unproductive mechanisms should focus on communities further away from productive cities.

#### **Employer Insights**

From our interviews, it was clear that the demand for labor was year-round, while supply of labor was temporary or cyclical. The latter aspect was usually

**Table 2:** Costs of Mechanisms

Mechanism	Classification	Cost
Farming diversification	Productive	<i>Low to medium</i> There may be startup and ongoing business costs, or time costs associated with multiple crops/harvests
Savings	Productive	<i>Low to medium</i> There is an opportunity cost associated with keeping money in unsophisticated bank accounts
Seasonal migration	Productive	<i>Medium</i> There is a transportation cost, a social cost of leaving (cost to family and community), and ongoing living expenses
Reasonable credit	Productive	<i>Low</i> Rates were low to zero
Government subsidies	Productive	<i>Low</i> Subsidy program is generally free
Cutting back on consumption	Unproductive	<i>High</i> Costs associated with growth stunting and health risk
High interest credit	Unproductive	<i>High</i> Rates are extortionate
Handouts and charity	Unproductive	<i>Low to high</i> While nominal cost is low, the social cost of receiving charity can be high, depending on the situation
Failed seasonal migration	Unproductive	<i>High</i> Detrimental costs associated with migrating and finding work, and ongoing costs of living as a result of failure

determined by religious holidays and harvest times, while the constant demand is related to the fact that migrant workers tend to be less expensive to employ. Most migrant workers became connected to their employers through existing employee referrals. These referrals allow employers to give both skilled and unskilled migrant employees an opportunity and also guaranteed the migrant workers a source of income before even coming into the city. These relationships also mean that income opportunities are as visible and broad as a migrant worker's network.

Transportation and construction were some of the sectors where it was easy to match labor supply and demand given the lower level of skill needed to perform. Beyond the lower level of skill needed, these sectors also exist in migrants' villages, which means that many migrants are not pursuing work in the city in these sectors for the first time or without any experience. Despite these sectors existing in both Makassar and in the villages, the former is more appealing given working conditions and wages. For example, during an interview with the transportation employer, we uncovered that some of his employees can probably find better work in their own towns, however, lack of good infrastructure makes it difficult to drive on those roads and thus they prefer working in the city.

### **Skill Gaps and Requirements**

Non-migrant workers are, in general, more skilled than migrant workers, especially in the construction industry. To put this into perspective, there seems to be an average of one skilled migrant worker for every three non-migrant workers. The differences in skill gap translates into wage differentials with non-migrant workers earning about 30 to 50 percent more than migrant

workers. The employers mostly relied on recommendations from current employees to determine proficiency levels. This referral gives employers the confidence they need to test out both skilled and unskilled workers. In addition, some employers have a probationary period to assess skills and accountability of their employees.

### **Business Relationships and Labor Sourcing**

All three of the employers we spoke with utilized a network of migrant workers to supplement their labor force. But, the various employers were tied to networking to different extents -- Fajiri relies heavily on networks, and has only ever hired two walk-ins, while a Simon supervisor claimed that most workers who walk up to the construction site are hired. To grow their network, they would ask workers currently in their network for referrals to other skilled workers. When tapping into their network, the employers would call potential migrant workers on their list, and would do so on a demand-driven basis. For example, Fajiri would wait to receive a building contract before contacting potential migrant workers.

Skilled labor is more abundant in Jakarta than in Sulawesi, but the Java-based migrant workers demand higher wages. Hence, the local network, which tracks skilled vs. unskilled labor, is an important tool for the companies to keep track of the cheaper skilled labor. This is increasingly important if the employer reimburses the migrants' transportation costs. Fajiri, for example, does reimburse migrants for transportation, while Arwani, the Bentor company, does not. Simon does not pay for transportation, but does provide housing for all workers, which is a critically important factor in drawing migrant labor to the worksites. On a similar note, we briefly spoke with



a migrant worker who was employed at a school named ‘Olimpiade Sains Spidi’, a client of Fajiri. She said that the work provides her with accommodation and food, and she would not have taken the position without these benefits.

The companies noted there is a migrant worker labor shortage during the farming season. To compensate for this shortage, companies are more likely to reach out to workers in Jakarta. The same scenario can arise from an influx of cyclical or temporary work contracts.

### **Performance of Migrants and Challenges**

Employer perceptions about on-the-job performance of migrant laborers doesn’t appear to be a barrier to migrants finding work. In the construction industry, while an employer often assumes that a local worker or one from Java is more skilled than a migrant from a Sulawesi village, they are typically willing to give the migrant an opportunity to demonstrate his/her skills over one to two days and hire those that add value. Whether a “walk-in” has this opportunity depends on labor demand at the time (varies with project load, larger firms more likely to have need), but a referral through the company’s network almost guarantees that a migrant will have a chance to demonstrate skills. Granted, laborers who possess certain skills like sand mixing and cement laying are more attractive than less-skilled workers, so migrants hoping to secure jobs on construction sites would benefit from gaining relevant experience in their home villages.

Despite some skill gaps, the employers were generally happy with the performance of their migrant laborers. The most cited reason for firing a worker was “laziness,” and multiple employers claimed that their migrant workers demonstrated stronger work ethic than local ones. Arwani explicitly expressed preference for migrants in the Bentor transportation business, explaining that they are generally easier to work with and reliable. No employers cited legal or contractual issues with temporary migrant employees. Given this perception about their work ethic and the ability for entrepreneurial migrants to acquire in-demand skills locally prior to migration, the most significant barriers to employment are access to networks and alignment of the migration with periods of high labor demand. Employers universally cited the typical crop harvesting seasons as the period in which they have the greatest demand for labor, so migrants who can afford to send members to cities during harvests are in a strong position to increase total household income.

### **Overview of Wages**

Based on our interviews, wage rates seem to depend on two major categories: skill and gender. As mentioned above, new laborers are often tested when they arrive at a worksite for the first time. If they are able to satisfactorily demonstrate skills related to the industry, they are hired at a skilled worker’s wage; if they are unable to demonstrate these skills, they are hired at an unskilled worker’s wage – an approximate 30% discount.

**Table 3: Reported Daily Wages (IDR)**

	Fajiri	Simon
Skilled Worker Wage	100,000	120,000
Unskilled Worker Wage	50-90,000	80,000

It appears difficult to switch from the unskilled category to the skilled category, even if a worker gains skills through their work. Thus, a worker hired at an unskilled wage rate can expect to remain at that wage for the entirety of the project. Given that migrant workers can gain relevant skills in their home communities, it was not clear whether most migrant workers fell into one category or the other, or whether they faced a higher hurdle (e.g. more stringent evaluations of their skills tests) relative to non-migrant workers.

A supervisor at Simon noted that wages are slightly lower in the rainy season (Rp 115,000 and 75,000 for skilled and unskilled workers, respectively), and reported that women earn Rp 70,000 per day, whether or not they are skilled. A female worker confirmed this in an interview, saying that she currently earns Rp 70,000 per day, up from the Rp 50,000 per day she made when she started working for Simon three years earlier.

Wages were in the same broad range across the employers we interviewed. However, there appear to be significant differences for workers who migrate to other areas, and specifically to Malaysia. A migrant worker interviewed by the Fajiri group at the school reported her income in three different locations: Rp 5,000,000 per month in Malaysia (working customer service at a bank), Rp 2,000,000 per month in Makassar, and over 2,000,000 per month in Borneo. This suggests that while workers who migrate to Makassar can expect to make generally the same income across several types of employers (meaning there is no reason for all migrants to target and compete for the same specific jobs), migrating to Makassar is significantly different than migrating to Malaysia, not just in terms of distance but also in terms of earning potential.

## **Future Outlook**

From our interviews with employers, it seems that there will be an increase in demand for migrant workers in the future, driven mostly by the growth in the construction sector. Construction managers highlighted the increase in construction projects driven by the rapid urbanization of Makassar. Additionally, a typical construction project lasts about five years in length, and workers who show up one year can expect to receive a job the following year. This leads to favorable conditions for migrant workers. In transportation, the situation is more complex. While there is a decline in demand for labor given the increased reliance on public transportation over bentors, migrant workers were preferred over non-migrant workers by transportation managers. Therefore, construction seems poised to become the main sector for migrant workers who are seeking additional income.

In both sectors, however, network effects are favorable for migrant workers. Because many managers rely on migrant workers to seek out additional workers from their networks, the influx of migrant workers will lead to a network effect in which it will become easier and easier to find jobs in the city for those seek

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