Back From Israel: Impacts of Modern Farm Employment on Smallholder Cultivation in Nepal

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Introduction

Every year, thousands of farmers from low and middle income countries come to Israel for a 1-year program of agricultural employment and training.

Introduction

What is the impact of this program on the interns upon their return home?

INCH BY INCH, ROW BY ROW / 'THIS IS NOT MAGIC – IT IS HARD WORK'

Israeli agriculture courses help developing world students reap what they sow

Partnership initiatives through the Arava International Center for Agricultural Training give trainees tools to return home and launch farms and businesses in their countries

By EMILY FISHBEIN | 14 June 2019, 7:00 am | 6

1,720 shares

Zenan Sumlut examines rice at the organic rice mill she now manages in Kachin, Myanmar. (Emily Fishbein/Times of Israel)

1 2 3 4 5

Introduction

What is the impact of this program on the interns upon their return home?

Agricultural Productivity Gaps

(a) Israel

(b) Nepal

Figure 1: Agriculture in Israel and Nepal

Smallholder Farmers

Closing productivity gaps can reduce extreme poverty and enhance global food security.

Agriculture in LMIC dominated by small-scale producers.

- Low levels of technology adoption (Suri and Udry, 2022)
- Insufficiently commercially oriented (Barrett, 2007).
- Unattractive for rural youth (FAO, 2014)
- Likely to remain dominant for decades (Bukchin-Peles and Fishman, 2021).

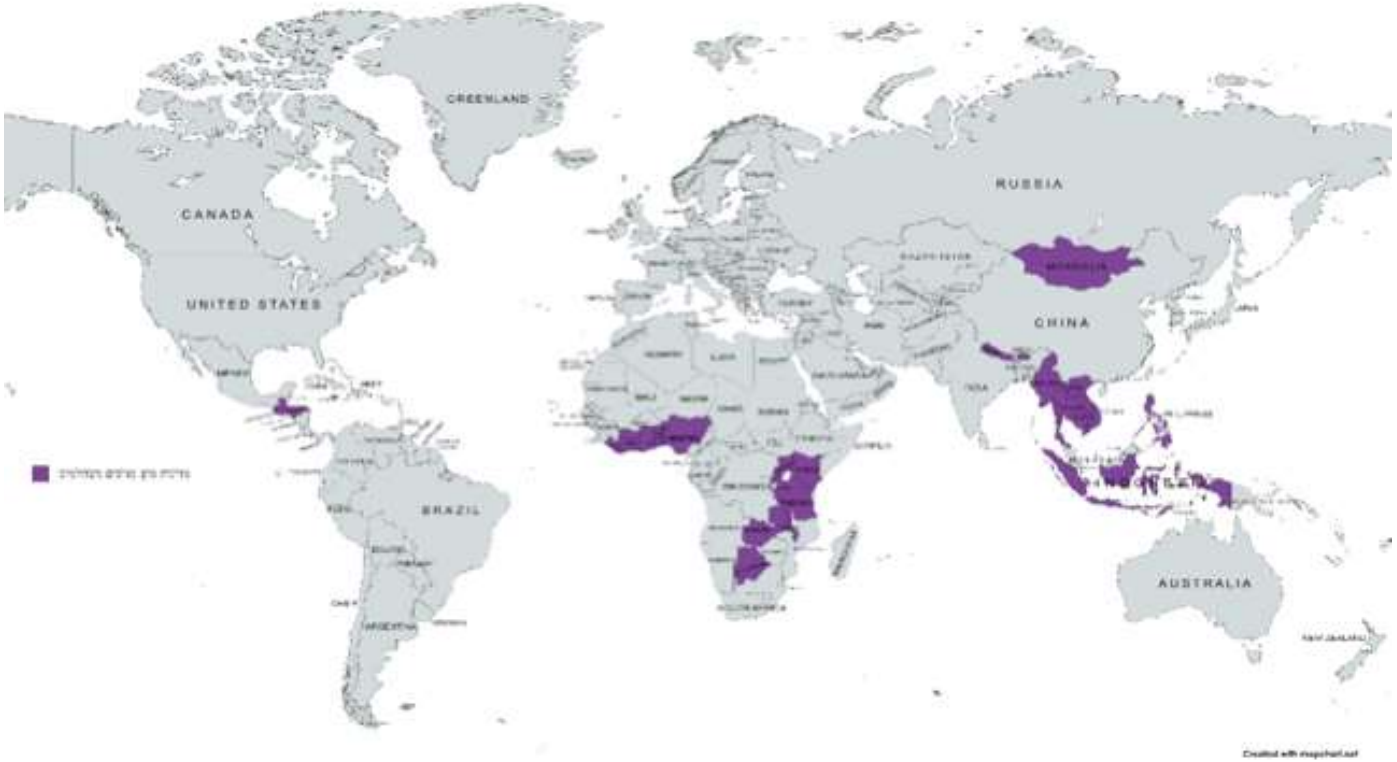
Contribution

The internship program stands out as an:

- application of "on the job" or overseas training in the agriculture sector.
- a program that combines agronomic and managerial skills in agriculture.

A natural experiment to determine causal impacts.

The Program



About 15% of interns (500-700 per year) come from Nepal

The Program

- Commercially managed, self financing, and in high demand.
- Year long.
- Classroom training in modern agriculture (1 day/week) + Employment in farms (5 days/week)
- Employed in a variety of activities and crops.
- Interns send home Rs. 800K and save Rs. 150K.

Lottery

Lottery

Survey







Estimation

$$Y_i = \alpha + \beta W_i + X_i + \gamma_l + \epsilon_i \tag{1}$$

- Controls include caste groups, gender, land holding size, age.
- ToT estimated using 2SLS.

Place of Residence and Employment

Table 2: Place of Residence and Employment

	(1) Own Village	(2) Agri.	(3) Non-Agri.	(4) Cultivation	(5) Agri. Business	(6) Formal Job	(7) Other Busines
Won Lottery	0.07**	0.08**	-0.08**	0.06*	0.05**	-0.09***	0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)
Mean Dep. Var	0.67	0.65	0.45	0.63	0.06	0.37	0.08
N	915	915	915	915	915	915	915

▸ Restricting to Subjects

Farming

Farm Practices

- No difference in crops ▸ Table
- No difference in farming practices ▸ Table
- No difference in farm assets ▸ Table ▸ Table

Farming

Table 3: Farm Expenses

	(1)	(2)	(3)	(4)	(5)
	Y/N		Amount (1,000 Rs/Ha)		
	Inputs	Transport	Inputs	Transport	Total
Won Lottery	0.01	0.08**	9.77**	2.04**	24.47***
	(0.02)	(0.04)	(4.17)	(0.86)	(9.23)
Mean Dep. Var	0.93	0.35	27.92	2.43	33.41
N	681	628	672	619	671

▸ Details

Farm Investments

Table 4: Farm Investments

	(1)	(2)	(3)	(4)	(5)	(6)
	Y/N	Amount (1,000 Rs)		Did not invest because of...		
	Y/N	Total	(per Ha)	Finance	Risk	Training
Won Lottery	0.08***	7.32	24.94*	0.01	0.04	-0.22***
	(0.03)	(8.82)	(13.24)	(0.03)	(0.03)	(0.03)
Mean Dep. Var	0.17	37.10	42.81	0.17	0.42	0.57
N	915	906	902	915	915	915

▸ Table

Household Income Sources

Table 6: Household Income Sources

	(1)	(2)	(3)	(4)	(5)	(6)
	Y/N			Amount (1,000 Rs)		
	Agri	Non-Agri	Agri (perHa)	Agri	Non-Agri	Total
Won Lottery	0.04	-0.04	35.68**	26.11**	-14.21	22.95
	(0.03)	(0.03)	(17.93)	(10.70)	(28.45)	(30.25)
Mean Dep. Var	0.67	0.65	151.53	111.13	329.46	485.39
N	915	915	902	908	915	908

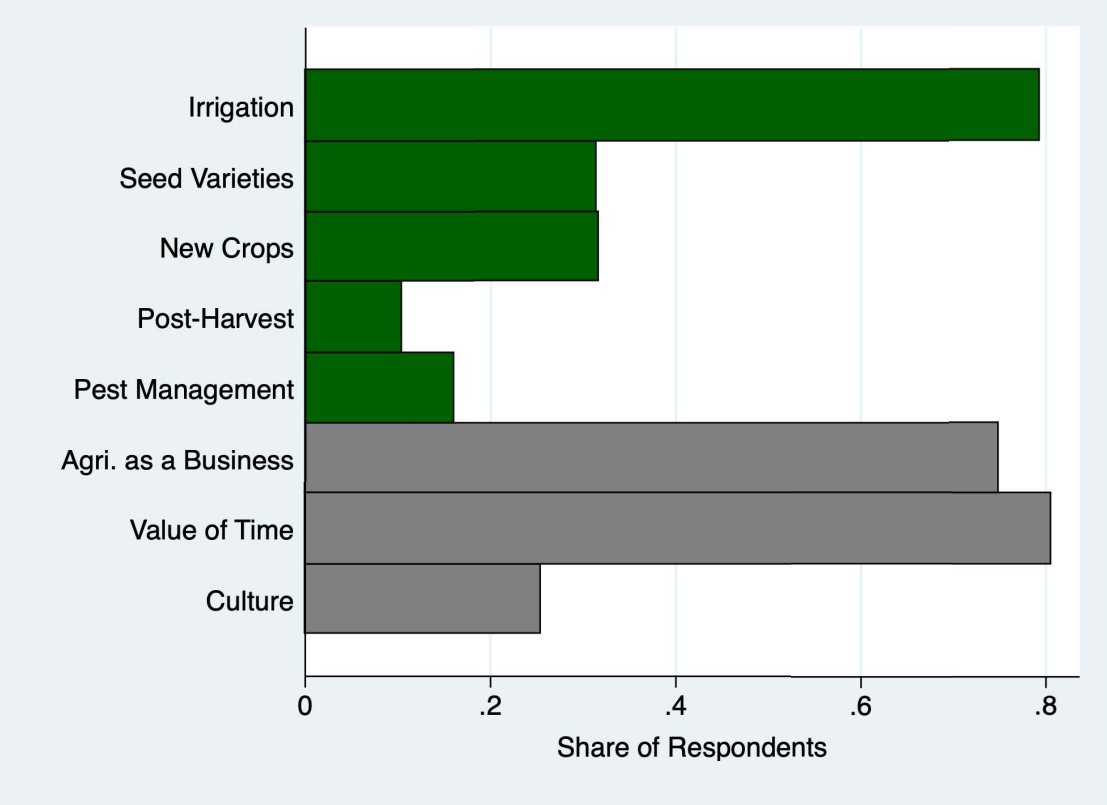
▸ Detailed Binary ▸ Detailed Amounts

Summary - Impacts

- Increased likelihood of engaging in agriculture, especially commercially.
- Increased investments in the farm.
- No evidence of changes in farming practices or technology adoption
- Substantial increase in farming expenditures and income (20-30%).
- No indications of overall income increases.

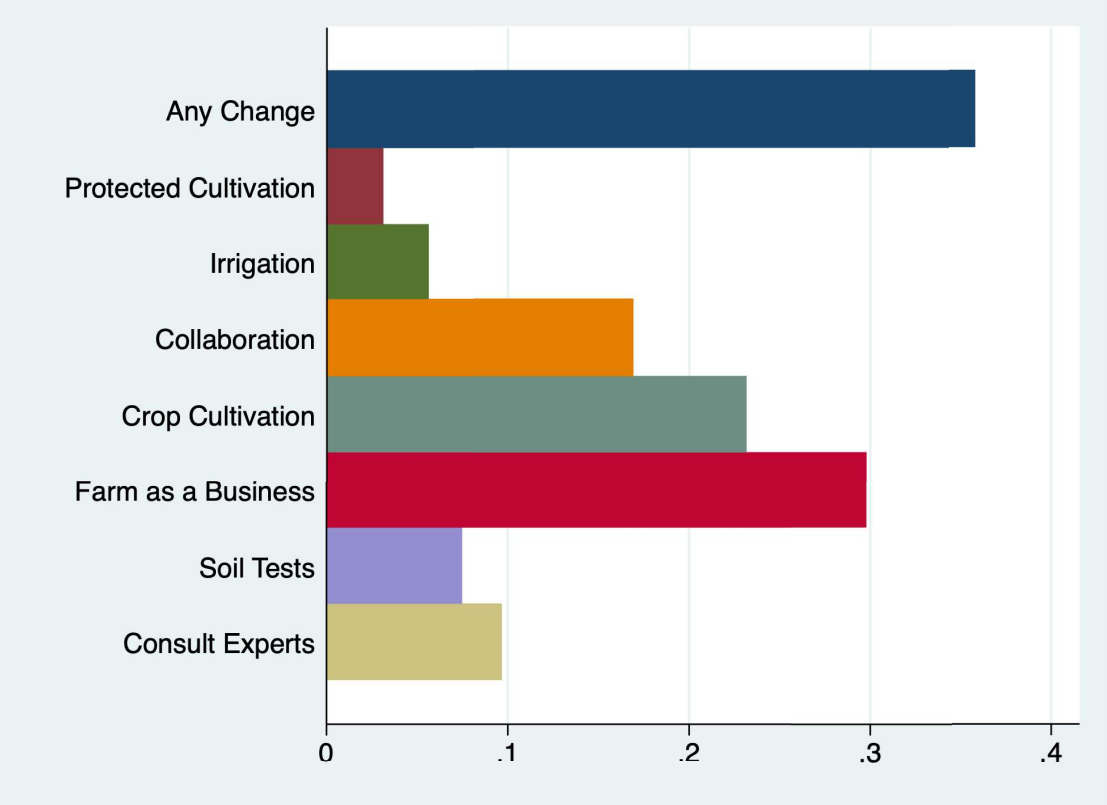
Interns' Assessment

What useful things did you learn in Israel?



Interns' Assessment

Did you change anything in your cultivation after returning?



Conclusion

- Internship caused substantial increase in farming investments, expenditures and income.
- Effects are large in percentage terms, but not transformative.
- No impacts on technology adoption in farming.
- Cautious interpretation as a more business like approach to farming.
- Ongoing work: experimentally introduce
  - Enhanced managerial training
  - Agronomic and managerial consultation after return
  - Finance