The future of family farming in Israel: the second generation in the Moshav

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The Moshav, a family farm-based settlement, has been a prime example of the major changes in the rural space in Israel. The aim of this paper is to present and understand these changes by studying the economic characteristics of second-generation – that is relatively younger – households in the Moshav. This group has shown a higher tendency to either adopt a livelihood strategy of pluriactivity, or to disassociate itself from agriculture in favour of non-agricultural income-generating activities, both inside and outside the settlement. Both trends have emerged in response to the increasing difficulty of deriving income from agriculture. The paper identifies the major patterns of economic activity and income sources among this group and assesses future attitudes towards operating the farm, choosing pluriactivity as a livelihood strategy, and remaining on the farm in the future.

KEY WORDS: Israel, Moshav, second generation, rural space, pluriactivity, agriculture

Introduction

In the last few decades the rural space in Israel and its socio-economic components have steadily changed. The changes are attributed to long-term trends and processes common to many developed economies, such as a tremendous increase in the efficiency and intensity of production, the decline of agricultural employment, and the suburbanization of the countryside. The Moshav, a type of family farm-based settlement, has been a prime example of these changes. The transformation of the occupation pattern in farming households, through the adoption of a strategy of pluriactivity based on both agricultural and non-agricultural sources of income, has become a common development. The decline in agricultural employment has been partly compensated for by the penetration of non-agricultural land uses and increased commuting to urban centres of employment. At the same time, movement of people from urban areas to the Moshav, partly motivated by the relaxation of land policies, has brought about major changes in the demographic composition of rural areas and the settlement patterns themselves.

The currently evolving occupational structure of the Moshav communities, especially among the second-generation households, raises questions about their future as agricultural settlements. By second generation, we mean the relatively younger households in the Moshav, in which the head of the household is no more than 40 years old. In most cases, their parents were settled in the Moshav by national authorities; in some cases, their grandparents were the first to be settled on the land, and operated a family farm. This group has shown a greater tendency to disassociate itself from agriculture in favour of non-agricultural income-generating activities, both inside and outside the settlement. Bearing that in mind, this paper has two major aims: to identify major patterns of economic activity and income sources among second-generation Moshav households; and to assess their future attitudes towards farming activities and choosing pluriactivity as a livelihood strategy. Before discussing the major issues of this paper, some theoretical background regarding rural occupational change and pluriactivity, in general, and the nature of the Moshav and the changes it has undergone in recent years, in particular, is reviewed.

Farm diversification and pluriactivity

The analysis of occupational changes in the rural areas of developed economies emphasizes, among
other processes, the diversification of income sources among farming households. This diversification may be the result of developing new activities within the farm, or the combination of farm-based and external sources of income. Both patterns represent the emergence of pluriactivity as a common strategy for farmers to reduce their reliance on agricultural production as the major source of income. Diversification, and more broadly, pluriactivity, as well as the underlying reasons for choosing this strategy, have long been discussed in the literature (Ilbery 1987; Gasson 1988; Fuller 1990; McInerney and Turner 1991; Evans and Ilbery 1993; Grossman 1993; Marsden 1998; Bryden and Bollman 2000; McNally 2001; Sofer 2001). A synthesis of these sources proposes that the main causes of this trend are the following.

1. Deteriorating terms of trade for the agricultural sector, expressed in the rising cost of inputs and the relative fall in the price of outputs, a process culminating in declining net income from agriculture.
2. Increased efficiency of the agricultural sector and productivity per unit of input, resulting in reduced demand for labour, coupled with burgeoning food surpluses.
3. A decline in the relative importance of agriculture as a source of income, leading to a search for alternative uses of idle farm premises.
4. Heightened receptivity among farming households to alternative sources of income, as a result of the acquisition of vocational training and higher education.
5. Improvements in the transportation infrastructure and technological changes that have enhanced the relative advantages offered by rural locations as sites for non-agricultural activities, and have facilitated the access and commuting of rural residents to urban-based employment.
6. Counter-urbanization and suburbanization, which have brought about changes in the demographic and occupational profiles of agricultural settlements.
7. Government intervention that circumscribes agricultural activities and change in land uses, but also offers state sponsorship to develop alternative sources of income in response to changing economic conditions.

Altogether, the economic rationale for diversifying income sources is to deploy household resources – land, labour, capital, and skills – in ways other than agricultural production, in order to generate income that is higher than that earned in their present use. The deployment of resources may take the form of diverting a household’s skilled labour into high-earning activities while replacing it with a less expensive contracted agricultural labour force. Alternatively, it may be achieved by diverting part of the land and premises into non-agricultural activities, while cultivating other parts of the land, and by diverting a share of the household labour time to non-agricultural activities.

It is commonly accepted among scholars that ensuring family continuity in farming is becoming more difficult all the time, and that succession in farming is more likely to be achieved on economically successful farms. According to Potter and Lobley (1996), succession is both a cause and an effect of a farm’s current economic status, providing the incentive to develop the business over long periods, as well as the necessary labour, skills, and entrepreneurial energy to carry plans through. These essentially motivational influences operate more strongly on some farms than others and seem to have an impact on the structural differentiation of the farming community. Correspondingly, mechanization and other modern developments are significant for the persistence of the successors as a farming unit in Finland (Abrahams 1991). In the Norwegian case, there is a tendency towards transformation from farming as an occupation which the older generation were obliged to carry on, to farming as one option among many for the current generation (Villa 1999). A wider view of Western Europe reveals that, within the succession process, off-farm work and participation in other farm-based enterprises are becoming frequent occupations among women in farming families. This pattern is at present a distinct form of pluriactivity among such families, with an emerging trend towards husbands being occupied full-time on-farm and wives off-farm (Blanc and MacKinnon 1990). Despite the discussion raised so far, the theoretical and empirical discussion regarding young farming households in developing economies and their occupational characteristics is relatively limited. It is therefore assumed here that, although their distinctiveness may be obscured, their occupation structure tends to follow the pluriactivity pattern, perhaps even more often than the previous generation. Thus a short discussion of the major characteristics of this phenomenon is warranted.

The literature on pluriactivity suggests that the shift towards this strategy has been accelerated in recent years. Location and the distance of the farm from an urban hub of employment have an influence on the specific pattern of pluriactivity (Marsden et al. 1989; Edmond et al. 1993; Bowler et al. 1996; Eikeland and Lie 1999; Sofer 2001). In peripheral regions characterized by small-farm production, one finds a significant degree of pluriactivity accompanied by low levels of income and little labour mobility. One outstanding feature of this process is the farming household’s entry into the tourist industry, particularly in sparsely populated
areas (Campagne et al. 1990; Evans and Ilbery 1992; Edmond et al. 1993). By comparison, for more than a decade, the dominant feature of London’s rural fringe, particularly in the south, has been the penetration of non-agriculture-related small businesses run from redundant farm buildings. Some of these businesses originated outside the rural settlements, including urban localities, but later relocated to these sites, although a large proportion were founded within the villages themselves (Short 1995). Generally, in Western Europe, a main feature of the fringe of metropolitan areas is off-farm wage labour as an important source of income, and the rising portion of women occupied in such work (Jervell 1999). In these areas, pluriactivity represents a stage in the sector’s capitalist development; farming is exhibiting clear tendencies toward capital accumulation alongside growing disengagement from agriculture as its economic base (Marsden et al. 1986; Campagne et al. 1990).

Discussing gender relations, in many cases the farm is managed as a business enterprise in which the husband is engaged on the farm and the wife tends to work off the farm (Little 2002), a frequent phenomenon even in Australia (Alston 2004). By engaging in non-agricultural economic activities, both on and off the farm, women are in a position to contribute to the survival of the family farms (Gasson 1986; Redclift 1996; Davis et al. 1997), even if they face difficulties in developing their own enterprise (Bock 2004). Distance to employment hubs affects the pattern; women will commute shorter distances (Jervell 1999), while men will commute from farms located at greater distances (Eikeland and Lie 1999). Nevertheless, there is also evidence to suggest an opposite pattern, where the men work off the farm in higher-paid occupations, while women may remain on the farm, engaged in domestic duties and running decreasing agricultural activities and/or small on-farm non-agricultural ventures (Alston 1998; Shortall 2002).

Pluriactivity may be common among all age groups of households, but the higher capital intensity of production among younger Swedish households may affect their choice of pluriactivity (Djurfeldt and Waldenstrom 1999). It is evident that pluriactivity is a frequent phenomenon on the fringe of Japanese metropolitan areas, and younger households have a higher tendency to have one member working for wages off the farm (Meer 1990).

The changes in the farming household can be seen as a process of restructuring of both the rural space and the family farm, where new strategies of survival, particularly pluriactivity, have developed to cope with the changing conditions. The ensuing effects include industrialization of the rural community and its surroundings, penetration of commercial and service-sector businesses into rural villages, and an increase in commuting to urban centres of employment (Sofer and Ne’eeman 1998; Eikeland and Lie 1999). By varying their sources of income, farming households often bring about the proletarization of their own labour. However, contrary to the classic process that severs the link between labour and other factors of production, proletarization in the present circumstances supports the socio-economic differentiation of the farming household. In essence, the continued existence of the farming household is dependent upon this differentiation, viewed as the household’s ability to reallocate its internal labour force and to expand its participation in the labour markets (Marsden et al. 1996). Yet, while this strategy has become very frequent, it has generated a pattern of uneven development among households and settlements, based either upon the internal organization of the family farm business (Marsden et al. 1987), or the differential access to economic opportunities largely related to location advantages and entrepreneurial ability (Ilbery 1992; Applebaum and Sofer 2004).

The nature of the Moshav and its transformation

The Moshav is a type of planned smallholders’ cooperative settlement that emerged in the 1920s. There are about 410 Moshav-type settlements spread throughout Israel, comprising about 35% of all rural settlements in the country. They generally number about 60–100 families, and the farmers in these settlements work their individual parcels of land and draw income from their farms’ yields. The size of the farm is equitable within each Moshav, but differs among Moshavim1, according to the region and the dominant farm enterprise, varying between 3 and 25 ha. The farm is commonly divided into three types of plots. Plot A contains the house and farm buildings and, if it is large enough, may also accommodate very intensive agricultural production. Plot B is the main farming unit and may be divided into two or more sections. Plot C is often a communally cultivated plot, with the profits equally divided among the Moshav’s households. Sometimes it is also used to cover the cost of village management. In recent years, with the relaxation of the land policy regarding allocation of land, in many instances plot C land has been allocated for the expansion of housing, mainly for second-generation non-farming households.

The Moshav plan was based on several principles – both ideological and practical (Rokach 1978; Applebaum and Margulies 1979; Schwartz 1999).

1 The land allocated to the Moshav is nationally owned, leased to the settlers for a 49-year period.
Agriculture has been the mainstay of the rural settlements in Israel for many decades, but in recent years it has gone through changes and adjustments in order to retain its competitive edge on local and international markets. The share of agriculture in the state economy has changed significantly. The contribution of agriculture to the GDP in 2000 was a mere 1.6%, compared with about 4.8% in 1980. Its share in the total value of exports in 2000 was 2.5%, just under a quarter of its value in 1980 (Ministry of Agriculture 2001). At the same time, the sector's productivity has significantly increased, in terms of both output per unit of labour and output per unit of capital, even faster than in some other sectors. However, apart from the rise in productivity, there has been a decline in the sector in terms of all other indicators: worsening terms of trade; decline in income derived from agricultural production; and decline in the number of self-employed farmers, which was even faster than the decline in the share of GDP. These trends affect the willingness of those engaged in agriculture to carry on with farming activities. The total number of people employed in agriculture declined from 90,000 in 1980 to just under 75,000 by 2000 (Ministry of Agriculture 2001), while the number of self-employed has been halved since 1986. In addition, the total area of land under cultivation has declined, and an increase was recorded in spontaneous setting aside of land (Gal 2003).

These trends affected the Moshav, which for several years has been undergoing a series of socio-economic transformations in response to the declining role of agriculture within Israel’s economy, the reduction of state support for agriculture, and the attrition of the ideological appeal of the ‘rural settlement system’. The changes have taken the form of a dissolution of cooperative aspects, modified income and occupational structures, suburbanization, loss of municipal autonomy, and altered forms of land cultivation and land holding (Applebaum 1990; Schwartz 1999; Applebaum and Sofer 2004).

The reduction in agricultural employment, the entry of urban populations into rural communities by purchasing farm holdings without entering into farming activities, and the penetration of non-agricultural activities into the Moshav have occurred relatively quickly (Applebaum and Sofer 2004). Recently, these changing conditions have encouraged some farmers to enlarge the scale of their operations by increasing land resources and labour inputs. Subleasing parcels from neighbours who prefer to limit the land they cultivate, or to discontinue farming altogether, has enabled access to larger land resources. In addition, the use of self-labour in the Moshav has gradually been replaced by wage labour, particularly cheap foreign labour, which has contributed to decreasing production costs and released household members to engage in more profitable non-agricultural occupations. The increase in capital resources was accomplished by investment in advanced technology, especially labour-saving technology, depending on the agricultural branch and its characteristics.

In such circumstances, for those farmers who chose not to intensify their agricultural operations, the major income-augmenting mechanism available was employment, whether full- or part-time, off the family farm and/or outside the Moshav itself (Haruvi 1989; Kimhi 1994). Dividing the household’s labour resources among several activities, with some family members continuing to operate the farm and others opening businesses on the property or working outside the Moshav, could also achieve this aim. The degree to which this strategy was adopted appears to be dependent upon the economic opportunities available in the vicinity of the Moshav. For example, the magnitude of non-agricultural business as a proportion of total household activities is relatively higher in the eastern fringe of metropolitan Tel Aviv (Sofer and Ne’eman 1998), a region that is considered highly attractive as a location for non-agricultural businesses, particularly for commercial outlets and warehouses linked to the metropolitan market. The latest trend has intensified negative environmental impacts with respect to land, water, and air resources, and the general quality of rural life (Sofer and Gal 1996).

Under these conditions, the young ‘second generation’, comprised of households that are based on a son or daughter of the farming households, with the head of the household no more than 40 years old, is questioning its livelihood strategy. Not much has been written on this topic. An earlier discussion by Schwartz et al. (1982) pointed out
that, as early as the 1980s, about three-quarters of the employed persons in the Moshavim in the Galilee worked partly or fully outside the family farm. Being better educated than their parents, this propensity was higher among the second generation, who were mainly engaged in the tertiary sector in urban settlements; others were employed in industrial plants in the region. Regarding the will to create local sources of employment under scarce land resources, they proposed that the development of local industry and tourism should be the main domain of employment. Explanations for the lack of interest in continuing to operate the family farm, such as the low profitability of agricultural production, a decline in prestige of the agricultural sector, and heightened receptivity to alternative sources of income following the acquisition of vocational training and advanced education, were offered for Moshavim in the central area of the country (Kersel 1994). Altogether, this limited information raised the interest to study the current pattern of employment of the ‘second generation’ and its attitudes towards its future as agricultural producers.

**Occupations and income of ‘second-generation’ households**

*Data sources and methodology*

The data presented in this paper were gathered during 2001–2 from a sample of 208 ‘second-generation’ households, residing on farms in 26 different Moshavim, distributed among eight regional councils, from the Upper Galilee in the north to the western Negev in the south (Figure 1). The selection of Moshavim was guided by the need for a sample that is representative in terms of national spread (north, centre, and south), natural and administrative region (eight regional councils), period of establishment (before the establishment of the state in 1948 and after), and degree of change (in terms of reliance on agriculture as source of income). The survey was based on a personal interview of the male or female head of each household. For each surveyed household, the researchers completed a questionnaire covering topics such as demographic, farming, employment, and income characteristics; business on the farm; and views of the respondents on practicing agriculture and living in the Moshav. The households surveyed were arbitrarily divided into three income categories:

1. households whose livelihoods are based mainly on agriculture;
2. households that combine agriculture with other income-producing activities; and
3. households either occupied exclusively in non-agricultural activities or for whom agriculture represents a marginal source of income.

The households were randomly selected, but in order to acquire sufficient information related to agricultural activities, the sample was skewed towards the first group.

**General characteristics**

Among the second-generation households, the
average age for men is 35 and for women, 33. On average, the families, usually starting with the parents’ generation, had owned the farm for about 42 years, longer in the central area and much shorter in the south. The men had lived on the farm for an average of 30 years, again with lower values for the southern region, where some of the Moshavim were established in the late 1970s and early 1980s. The women had achieved higher education more frequently than the men, most probably for two main reasons. First, in many cases they acquired their education before moving to the settlement, after marrying second-generation sons who lived on the farms. Second, some of the men had been involved in agriculture from a relatively early age and farm duties had prevented some of them from attending institutions of higher education.

Table 1 presents comparative data on some major characteristics of agricultural activity on the regional level. The land in each Moshav is divided equally among the households, although variations do appear among the Moshavim. Properties in the north are larger, as some of the Moshavim in the eastern Lower Galilee (part of the northern region) are engaged in extensive agriculture. But the more significant differences among the Moshavim rest in how they exploit the land. In the majority of Moshavim, about 70% or more of the households cultivate at least a share of their land, and a significant percentage of farmers (about 26%) sub-lease a share of their property to their Moshav neighbours. Accordingly, several farmers work especially large parcels of land, thereby exploiting scale economies and using their equipment more efficiently.2

It is interesting to note that at the time of the survey, an average of more than one-third of the households (35.85%), more frequently in the south than elsewhere, did not cultivate a hectare or more of their respective land (Table 1). This land is not leased out; in some cases it is set-aside for a short period, in other cases it is neglected, and in some cases it has been partially utilized for non-agricultural activities. An attempt was made to find a relationship between the data on uncultivated land and other variables. The findings suggest that among those households characterized by men holding a degree of higher education, there is a higher tendency not to cultivate a larger share of their land. Similarly, there is a higher tendency not to cultivate agricultural land among households operating a business on the farm, when, as in most cases, the business is using only a share of the land. Additional information suggests that more than 40% of the Moshav households (42.8%) employ wage labourers, the majority of them from foreign countries. The average number per farm is 2.7 labourers and, as elsewhere, this varies by season and agricultural enterprise.

**Income structure**

The discussion of the occupation pattern and income structure of the second generation is based on the assumption that for most households, more than one income source is available. Living in a rural settlement means that one of these sources might be agricultural or an agriculture-related activity. The data have shown a mean of 2.6 income sources per ‘second-generation’ household. Generally, men are involved in a number of gainful activities and show a higher tendency to be involved in agriculture, but also in running a business on the farm. Men are responsible for about 84% of total agricultural income sources, and 77% of the on-farm business income. Women’s involvement in agriculture is limited and, in some cases, seasonal. By comparison, women show a higher tendency towards wage employment, mainly outside the Moshav, in urban centres in the vicinity of their settlement, but also inside the settlement. Women are responsible for about 63% and 61% of total wage employment income, outside and inside the Moshav, respectively. One may argue that, for the smaller farming operations, the stable flow of income derived from women’s employment allows the men to continue operating the farm, despite its unstable and declining income flow (Sofer 2001; Alston 2004).

It should be emphasized that in the Israeli case, short distances and good accessibility to urban labour markets, the desire to obtain vocational

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**Table 1** Major characteristics of Moshav households’ agricultural activity, by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Average area per farm (ha)</th>
<th>Average area cultivated by owner (ha)</th>
<th>Household self-cultivating (%)</th>
<th>Household not cultivating an area they own &gt;1 ha (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>46.3</td>
<td>111.5</td>
<td>71</td>
<td>25.4</td>
</tr>
<tr>
<td>Centre</td>
<td>28.3</td>
<td>34.2</td>
<td>83</td>
<td>28.8</td>
</tr>
<tr>
<td>South</td>
<td>28.3</td>
<td>36.7</td>
<td>69</td>
<td>60.4</td>
</tr>
<tr>
<td>Total</td>
<td>33.7</td>
<td>59.2</td>
<td>75</td>
<td>35.8</td>
</tr>
</tbody>
</table>
The future of family farming in Israel

Training and higher education, and the availability of relatively cheap wage labour to replace family labour on the farm, all encourage women to be engaged in off-farm wage labour. Women in marginal agricultural activities and on-farm small ventures can also be found in the periphery, where wage labour markets are less accessible. For example, women are usually in charge of the hen roosts that are common in the Galilee in the north. It should also be noted that second-generation households are not involved in agriculture as much as their parents were, and this leads to lower interest in farming among women.

The findings show that agriculture still provides the larger share – about 42% – of total household income (Table 2). This is an average figure, as some of the households no longer rely on agriculture, while for others, it is the only source of income. Together with income derived from wage employment, which is performed mainly outside the Moshav, both sources provide just over 80% of total household income. Of the latter figure, it was found that just under 5% on average (twice as much as that in the south) is derived from wage employment inside the Moshav. Operating a business, either on the farm or outside the Moshav, provides just under 15% of total household income. It is possible to argue that the diversification towards off-farm businesses could be the result of financial investment of successful farmers, but in most cases it is the result of declining farm income, and profits derived from off-farm businesses, as well as surpluses derived from wage income, may contribute to the sustainability of the farming operations.

In general, it is possible to divide the households into three types of farms, according to their share of income derived from agriculture:

- farming households, which derive more than 60% of total income from agriculture;
- mixed households, which derive between 11% and 60% of their total income from agriculture; and
- non-farming households, which derive up to 10% of their total income from agriculture.

This division is shown in Table 3. It is notable that the average income from agriculture is above 85% of total income in farming households, while it is close to zero (only 1.3%) in the non-farming households. The latter group rely largely on wage income, while owning a business, on or off the farm, contributes, on average, just over one-quarter of total income. The mixed households still derive, on average, a significant share (more than 42%) of their income from agricultural activities, but they are slowly shifting towards other income-producing activities. Analysis of the non-agricultural incomes suggests that in addition to agriculture, the agriculturally intense households engage only in wage labour. By comparison, among households characterized by medium or low agricultural income, the former are more likely to conduct business on, and the latter more likely to conduct business off, the farm. This fact probably indicates that households that do a substantial amount of agriculture are more likely to stay close to the fields if they operate a business.

No major differences are revealed in the comparison of farming households on a regional scale. The contribution of on-farm business is relatively more important for mixed households in the northern region, and for non-farming households in the southern region. Similarly, renting premises is relatively more important for non-farming house-

<table>
<thead>
<tr>
<th>Source of income</th>
<th>North</th>
<th>Centre</th>
<th>South</th>
<th>Total</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>39.1</td>
<td>48.5</td>
<td>36.1</td>
<td>42.2</td>
<td>145</td>
</tr>
<tr>
<td>Wage labour/salary employment</td>
<td>37.5</td>
<td>37.7</td>
<td>41.5</td>
<td>38.6</td>
<td>172</td>
</tr>
<tr>
<td>On-farm business</td>
<td>10.1</td>
<td>2.9</td>
<td>13.8</td>
<td>8.3</td>
<td>36</td>
</tr>
<tr>
<td>Off-farm business</td>
<td>10.0</td>
<td>5.6</td>
<td>3.5</td>
<td>6.8</td>
<td>23</td>
</tr>
<tr>
<td>Renting of premises</td>
<td>0.5</td>
<td>4.7</td>
<td>1.2</td>
<td>2.3</td>
<td>17</td>
</tr>
<tr>
<td>Leasing of land</td>
<td>1.8</td>
<td>0.6</td>
<td>3.9</td>
<td>1.4</td>
<td>36</td>
</tr>
<tr>
<td>Other</td>
<td>1.0</td>
<td>0.4</td>
<td>0.4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Share of household income, by source and by region (%)

<table>
<thead>
<tr>
<th>Share of income from agriculture (%)</th>
<th>61–100</th>
<th>11–60</th>
<th>0–10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sources of income (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>85.3</td>
<td>42.5</td>
<td>1.3</td>
</tr>
<tr>
<td>Wage employment</td>
<td>12.4</td>
<td>38.1</td>
<td>63.8</td>
</tr>
<tr>
<td>On-farm business</td>
<td>1.0</td>
<td>12.5</td>
<td>11.4</td>
</tr>
<tr>
<td>Off-farm business</td>
<td>0.7</td>
<td>3.2</td>
<td>15.8</td>
</tr>
<tr>
<td>Renting premises</td>
<td>0.2</td>
<td>1.8</td>
<td>4.7</td>
</tr>
<tr>
<td>Leasing land</td>
<td>0.3</td>
<td>0.9</td>
<td>2.9</td>
</tr>
<tr>
<td>Other</td>
<td>0.1</td>
<td>1.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 3 Share of household income, by source and by importance of agricultural income
holds in the central area, close to the Tel Aviv metropolitan area, where the demand for warehousing services is increasing.

Overall, pluriactivity is a common strategy among the Moshav households. The interviewees were asked to evaluate the importance of different reasons on a scale from 1 to 6, where 6 means that the specific reason is very important, 5 denotes that it is important, and 1 ascribes very little importance to the reason. The final score for each reason was the average of all values given it by the interviewees. According to these results, the main reasons for the increase in pluriactivity are the decline in agricultural income and the desire to take advantage of vocational training (average values of 4.9 and 4.5, respectively). This trend is supported by other factors, such as the availability of redundant farm buildings for alternative uses, as well as the ease of operating a business from the home. Availability of labour force and interest in agriculture received relatively low scores. The last finding suggests that farming households are embarking on pluriactivity not because they want to stop farming; they actually want to keep the farm and to be engaged in agricultural activities as long as these are reasonably viable.

Variables that influence income from agriculture

There are a number of variables that may affect the proportion of income earned from agriculture. First, and somewhat trivial, is the area of cultivated land. It should be noted that land area does not necessarily influence agricultural income; the intensity of utilization of production factors is an important variable here. Nevertheless, there is a strong positive correlation between the total acreage cultivated and the share of income derived from agriculture. The farms that work 10 ha and more of land derive more than 90% of their income from agricultural activities. In most cases, the larger areas of cultivated land are based on leasing from other farmers.

Another variable is the length of ownership by the family (since the first generation settled on the land), which shows a positive correlation with income derived from agriculture. The longer the ownership period, the higher the tendency to continue to operate the farm and the larger the share of total household income derived from agriculture. Accordingly, for those households that have owned the farm for a relatively short period – less than ten years – agriculture contributes, on average, less than 30% of their income. Many of these households are relative newcomers who chose to live in a Moshav in order to improve their quality of life, while continuing to earn their livelihood from employment in non-agricultural occupations off the Moshav. A third variable is the length of time the head of household has lived in the Moshav. The tendency is similar; the longer the period of living on the farm, the greater the share of agriculture of the total household income. All these variables may suggest that family tradition may keep these households engaged in farming. Yet, tradition in the Israeli Moshav is relatively short, as in most cases the present household represents only the second generation on the farm. Possibly a better explanation is that, among other reasons, the amount of capital accumulated on the farm, including resources and premises, encourages the second generation to stay there.

Characteristics of businesses on the farm

The trend of operating a business on the farm has gained momentum in the last two decades and is expanding, mainly on the fringe of the main metropolitan areas, and primarily on the fringe of the Tel Aviv metropolitan area (Sherman and Keidar 1993; Sofer and Ne’eman 1998; Sofer 2001). The second-generation households surveyed operate dozens of small non-agricultural businesses on their farms, usually on plot A, mostly in redundant farm buildings that most frequently served in the past as animal sheds, including cow sheds and hen roosts or greenhouses. Among the 49 businesses established by the surveyed households, 22 were established between 1996 and 2001, while less than a third (14 altogether) were established before 1991. Similar tendencies are shown by the national statistics, which indicate that approximately 36% of all businesses established by 2002 were established prior to 1996, and that the rate has increased rapidly since 1997 (Ministry of Agriculture 2003). In absolute terms, as was expected, there are more businesses in the central region, which is known for having high numbers of farms offering warehouses and commercial premises. Nevertheless, the data show a surprisingly higher frequency of business on the farms in the southern region – 45 businesses for every 100 farms – compared with 29 in the central region, and 22 per 100 farms in the northern region.

As for the type of operation, in the central region the most common business is warehousing, where farmers located in the rural–urban fringe offer relatively large structures for relatively low prices compared with locations in the Tel-Aviv metropolitan area. In the northern part of the country, most businesses are tourism related, while in the southern periphery, the operations serve agriculture or are derived from agricultural activities, such as nurseries, input suppliers, marketing of outputs, and the like. Generally, businesses located on the farm are relatively small, employing on average
seven persons per business, of which about five are wage employees and two are members of the household. One of the interesting findings is that there is a relationship between education and operating a business. Households characterized by a head with higher education show a relatively greater tendency to establish businesses on the farm.

The most important reason for locating a business on the farm is the availability of land, a reason that scored an average value of 5.5 on a scale from 1 to 6, where the value of 6 means very important (the scoring was conducted in a similar way as described above). The second most important reason is related to comfort, expressed in the proximity of the work place to the home. The availability of empty farm buildings and other premises was the next most important reason. The expansion needs of businesses formerly located off the farm were ranked low, with a score of only 3.1.

**Attitudes of ‘second-generation’ Moshav households**

This section deals with attitudes of second-generation households regarding their engagement in agricultural activities, and their choice of pluriactivity as a major livelihood strategy. The data are based on the analysis of responses to questions posed to members of the households.

When asked about the conditions that might encourage them to practise agriculture and perceive it as a major source of income, the respondents implied that agriculture has lost its prominent importance as an income source. Table 4 presents the average scores, on a scale from 1 to 6, given by the households in the different regions to the conditions offered to them as factors that might potentially improve the currently unsatisfactory agricultural income. Significantly, for most conditions, all values are higher in the central region. If we ignore a possible upward bias in the data for that region, it is clear, on the regional level as well as for the total population, that the price of agricultural products is perceived as the most important condition. Both a need for an increase in prices (a score of 5.5), as well as stability of the prices (a score of 5.4), which means less oscillation in prices, are at the top of the list. The third most important condition, accentuated for the central region, is the availability of additional non-agricultural sources of income for the household. When this condition is fulfilled – and as shown above, it is mainly in the form of wage labour performed by the women – there is higher propensity that the household (mainly the men) will continue to cultivate the land or to raise animals. It is possible to explain the findings by arguing that the choice of pluriactivity as a livelihood strategy is a response to the ongoing decline in the price of outputs. The Moshav second-generation households responded to the decline in prices, and the pursuant deterioration in terms of trade, by shifting some of their inputs, including the household labour force, into other profitable economic activities. They thus regard the existence of such activities as one of the major conditions (score of 4.9) that enable them to continue to practice agriculture, although maintaining a livelihood from agriculture is becoming ever more difficult. On the other hand, access to advanced extension services and authorization of free export, which might be important for a limited number of households, are not perceived as very important by the majority of households, especially in the southern periphery. Altogether, the responses reflect the main reasons for declining agricultural income, as well as the sphere of uncertainty in which farming households currently operate.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Degree of importance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase in prices of products</td>
<td>5.6</td>
</tr>
<tr>
<td>Stability of prices of products</td>
<td>5.5</td>
</tr>
<tr>
<td>Existence of additional source of income</td>
<td>5.0</td>
</tr>
<tr>
<td>Subsidy of water price</td>
<td>4.4</td>
</tr>
<tr>
<td>Subsidy of agricultural inputs</td>
<td>4.4</td>
</tr>
<tr>
<td>Supportive government policy</td>
<td>4.8</td>
</tr>
<tr>
<td>Development of additional source of income</td>
<td>4.6</td>
</tr>
<tr>
<td>Cheap loans</td>
<td>4.0</td>
</tr>
<tr>
<td>Training in advanced agriculture</td>
<td>3.4</td>
</tr>
<tr>
<td>Free export</td>
<td>3.1</td>
</tr>
<tr>
<td>Access to extension services</td>
<td>3.7</td>
</tr>
</tbody>
</table>
When checking these attitudes by type of household, it emerges that compared with the other two types of households, the average values for farming households (for whom 60% and above of total income is derived from agriculture) are higher for most of the conditions shown in Table 4. Again, however, the most important conditions are those related to the price of outputs, and therefore, the profitability of the agricultural sector. The conditions related to the existence and development of non-agricultural sources of income do not show significant differences among farming households, mixed households, and non-farming households. Yet, among the second-generation households there is a significant group that does not ascribe much importance to agriculture. Some of them still cultivate a small portion of their land but it seems that this will not last for long. When asked what could be the major reason for not being engaged in agriculture, most respondents (72% of all responses) suggested that the main reason is concerned with ‘economic issues’. The sum of importance of all other reasons was less than 50% of that main reason.

The majority of respondents (90%) indicated that it might be worthwhile encouraging entrepreneurship among farming households that will lead to diversification of income sources, even if this entails a forced change in the current land use pattern. This means that, even if a second-generation household presently relies on agriculture as the main source of income, it is anticipated that in the foreseeable future other sources of income may assist in supporting its livelihood base.

In addition to the economic reasons and livelihood strategies, it was interesting to learn what keeps the second-generation population in the settlement. Why do they remain on the farms, even if agriculture is no longer the mainstay of the household livelihood? Table 5 presents the relative degree of importance ascribed to different reasons for living in the Moshav and holding onto the farm, on a scale from 1 to 6, where 6 is the highest, or ‘very important’. The findings indicate that the desire to live in rural surroundings is the most important reason (an average score of 5.7). It is highest among those households making a livelihood from agriculture. Bonds with the family – mainly the parents, who in many cases also live on the farm – and with the farm and the land, are rated second and third in importance, respectively. The figures in Table 5 show that the scores are consistently higher for households that derive most of their income from agriculture. In other words, the higher the household’s share of income from agriculture, the stronger its bond – and that of all components of its economic activity – with rural life.

### Table 5: Degree of importance given to reasons to stay on the farm by type of household

<table>
<thead>
<tr>
<th>Reasons to stay on the farm</th>
<th>Type of household (defined by the % of income derived from agriculture)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>61–100</td>
</tr>
<tr>
<td>Living in rural area</td>
<td>5.8</td>
</tr>
<tr>
<td>Relations/bond with the family</td>
<td>5.3</td>
</tr>
<tr>
<td>Bond with the farm</td>
<td>5.3</td>
</tr>
<tr>
<td>Community life</td>
<td>5.0</td>
</tr>
<tr>
<td>Engagement in agriculture</td>
<td>5.2</td>
</tr>
<tr>
<td>Economic potential of the farm</td>
<td>4.8</td>
</tr>
</tbody>
</table>

### Conclusions

The second generation in the Israeli rural Moshav settlement has adopted a livelihood strategy based on pluriactivity, where the main additional sources of income are wage employment and small business activity, either in or outside the Moshav. The major reasons for choosing these strategies are economic in scope, and a significant increase in the price of agricultural products is required to block the continued decline in agricultural income and the shift away from farming. Another option is to reduce production costs by using scale economics on larger land acreage, a process that is expanding with the reduction in the number of actual cultivators. The divergence in second-generation pluriactivity patterns may indicate that the frequency of mixing agriculture with other income sources may be a temporary option adopted by households for which agriculture has been a mainstay.

The second-generation households reside on the farm, but clearly not all of this population engage in any agricultural production. In many cases the previous generation – the parents, some of whom still reside on the farm – were, in the past, more active in agriculture, gaining a larger share of their income from this source. Yet, it is not uncommon to find second-generation households that have expanded their operations by using production factors on a greater scale. They cultivate larger plots of land, using advanced technology and advanced marketing practices. Nevertheless, second-generation households are more often part of the Moshav population that has adopted pluriactivity, but may shift away from agriculture in the short or medium run, or significantly reduce the weight of agriculture in its labour time allocation and income share. We would argue that at present, for the majority of those households operating small farms and no longer devoted solely to agriculture, pluriactivity is
also aimed at helping to sustain agricultural activity. In such cases, farmers may utilize the resources acquired from non-agricultural employment for investment in agriculture, including the upgrade of equipment and other assets.

One may argue that the economic characteristics of the second-generation households in the Moshav express the trends of change under way in the Israeli rural space in general, and in the Moshav in particular. Three major aspects of these trends can be derived from the analysis of the data in this paper. These aspects are the possible emergence of attributes of the age of post-productivism in the rural space; the continuous change in the productive nature of the Moshav; and the ideological transformation taking place in the society and economy at the advent of the third millennium.

The first aspect is characterized mainly by pluri-activity, increases in the size of operations, proletarization of the household labour force and increased dependency on labour markets outside of the local settlement, and the phenomenon of set-aside land. All these examples of the so-called post-productivist age are currently evident in the Moshav and are fully expressed in the pattern of activities of the second-generation households. It should be noted, however, that the age of productivism has not disappeared, and a number of its features, such as increased specialization and intensification, are still operating. Clearly, the mix of features and of agricultural production, and the contradictory directions taken by farming households, contribute to the ongoing debate about the notion of post-productivist transition and whether it is tenable.

The second aspect suggests that there is a certain shift in the productive nature of the Moshav, from being only a productive locality towards being a space consumed by the non-rural inhabitants. This takes the form of economic purposes (warehouses, commercial and industrial enterprises), or leisure purposes (such as tourism-related activities). In addition, the amalgamation of plots under a smaller number of farmers has brought about a decrease in the variety of agricultural land uses, followed by a decline in the relative share of agricultural producers and the importance of agricultural income to the rural dwellers.

The third aspect is related to ideological transformations taking place within the Israeli society and economy at large. The most prominent expressions revealed in this paper are linked to a change from perceiving the land as a productive means to perceiving it as a real estate asset; an ongoing shift from the view of agriculture as ‘tilling the soil’ to viewing it from a business perspective, and even as a capital-accumulation process; and a change in the traditional perception of the Moshav as a rural agricultural community.

To sum up, the overall processes under way in the Moshav, where in many cases the second generation plays the role of avant-garde, suggest that the rural areas in Israel, in general, and the Moshav, in particular, are experiencing a period of restructuring. The outcome of that process may be a different rural area and different rural economy in the not too distant future.

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Notes

1 ‘Moshavim’ is the plural of ‘Moshav’ in the Hebrew language.
2 Some farmers cultivate more than 20 ha.

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