OCCASIONAL PAPER 5

THE ECONOMIC RELEVANCE OF AGRICULTURE FOR MALTA'S ECONOMY

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FOREWORD

The *Occasional Papers* published by APS Bank promote discussion of selected economic and social issues. *Occasional Paper 5* brings to attention a series of considerations that demand close analysis if agriculture in Malta and Gozo is to become a sustainable profitable economic activity in the Single Market of the European Union.

Agricultural activity survived in the Maltese Islands in the past fifty years as a result of a series of protective measures. These aimed to encourage production by ensuring a regular income flow for local farmers and animal breeders through a system of price guarantees and quota restrictions on imports. There were practically few incentives for active full time farmers to rationalise production through the constant upgrading of plant and produce and through a consumer-oriented system of product selection and distribution. It may be claimed that it was tradition more than marketing that dominated the growth of agriculture in the past. There has been innovation but the ultimate marketing framework remained focused on the domestic markets with exports featuring relatively low in producers' hierarchy of planning and risk.

This ranking of objectives has changed radically following Malta's membership of the European Union

and its commitments as a signatory to the international accord administered by The World Trade Organisation. Henceforth, Malta must abide by the WTO-EU negotiations and agreements and, also, by the modified Common Agriculture Policy of an enlarged European Union. There are several transitional periods during which the Maltese Islands must bring the respective agricultural sectors in line with EU rules, but these are short term and have to be used by all concerned to the best advantage of the sector.

Occasional Paper 5 arises from a presentation this writer made at a seminar organised by the National Statistics Office, Malta, in September 2004. The focus was on the contribution of the agricultural sector to the Maltese economy. This publication is an expanded version of the paper presented at the seminar.

APS Bank presents this publication to widen the debate on the subject. The views expressed are the author's. APS Bank has no corporate views on the subject.

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February 2005

THE ECONOMIC RELEVANCE OF AGRICULTURE FOR MALTA'S ECONOMY

The economic relevance of Agriculture for the Maltese Islands has been amply recorded in reports prepared by government in anticipation of Malta's membership of the European Union. One comprehensive document, which collates four reports on the sector, is entitled *The Rural Development Plan for Malta, 2004 – 2006* (Rural Development Department, Ministry for Rural Affairs and the Environment, Malta, June 2004). A second extensive analysis is given in the *Census of Agriculture – 2001* (National Statistics Office, Malta, 2003). These documents refer to the situation as it stood in the years 2000 and 2001, but they constitute the statistical fundamentals on which the present set up of the Agriculture sector in Malta can be ascertained and evaluated.

More recent data for 2002 and 2003 for final production in Agriculture (NSO, August 2004, *Economic Accounts for Agriculture 2003*) highlight a series of considerations that

Based on a paper read during a Seminar organised by the National Statistics Office, Malta on *The Contribution of the Agricultural Sector to the Economy* on 9 September 2004.

have to be taken into account while charting the way ahead for agriculture. These are:

1. Total agriculture production at producer prices declined from Lm59 million in 1998-1999 to Lm52.5 million in 2003.
2. Subsidies increased from Lm0.135 million in 1998 to Lm4 million in 2003.
3. Gross value added at basic prices fell from Lm30.7million in 1998 to Lm29.3million in 2003.
4. Factor income at current prices declined from Lm29.2milllion in 1998 to Lm27.9million in 2003.
5. Indices for real output of the agricultural sector, livestock products, animal products, crop products and wine record relative heavy falls. Setting 1998 = 100, these respective sectors were 84.1, 91.3, 94.6, 71.2 and 76 in 2003. Prices moved in the opposite direction: the implicit index of GDP rose from 100 in 1998 to 113.2 in 2003. (Vide Annex 1a and 1b for a complete statistical series)

A recent farm structure survey indicates a dynamic agricultural sector with regard to land use but constancy concerning ownership and size of holding. Legal personality of holdings is classified in three categories: sole holder, group or partnership, companies. Of the 10,988 agricultural holdings recorded in 2003, 96.8% were sole holder, 2.6% were group holdings, and 0.5% were companies with managers running the holding. Agriculture in Malta is a family concern. The majority of holdings are very small, about 0.25hectare on average;

48% of all agricultural holdings have utilised agricultural area of less than 0.5hectare.

The main thrust of farming in agriculture is based on the growing of crops. Very few holdings engaged in livestock, ruminants and poultry have agricultural land. The structure of utilized agricultural area may be considered under three classes, namely: arable land, making up 86% of the utilized agricultural area, normally cultivated under a system of crop rotation; kitchen gardens, with 4.0% of land, which are small plots of land intended for self-consumption; and 'permanent crops', the remaining 10%, that are raised on plots of land for a period of time, generally five years or more.

A marked feature of land use in the past few years has been the transfer of land use from fallow to forage and fruit and vegetables. The share of land dedicated to potatoes remained relatively unchanged. But the area under permanent crops increased following the thrust in vine cultivation; area under vine grew from 480ha in 2001 to 615ha in 2003.

Agricultural Policies

The performance of the agricultural sector emerged within a policy environment that, for many years, focused on encouragement of agriculture produce and, in turn, the support of farmers' incomes, through a series of import controls via quotas and tariffs, and price interventions throughout the year.

Agriculture policies in Malta were rather narrow in their objectives. They consisted mainly, and effectively, of measures aimed at supporting or stabilising product prices. They did virtually nothing to reduce the costs of inputs, support farm prices directly or induce structural reform. Direct assistance to farmers has been given for many years in instances of natural disasters or an epidemic. Prices were determined in some cases solely by market forces; for some products, however, they were established directly by government following negotiations with interested parties, but consumers were excluded.

Export subsidies did not exist. Capital assistance for small farmers was available, for many years, for the construction of water tanks and for the purchase of irrigation pipes. Agro industries in horticulture, canning and processing benefited from technical and financial assistance and fiscal exemptions under the schemes provided as an aid to industry operated by the former Malta Development Corporation and the Institute for the Promotion of Small Enterprise (both incorporated in the present Malta Enterprise).

These policies were implemented against a background of a set of natural constraints. These included a scarcity of land that tended to be gradually eroded further as a result of a persistent urge for the development of real estate. Water supply was considered inadequate although a widespread use of illegal drilling brought more land under cultivation at the expense of the quality and volume of the underground water streams! Irrigated land increased from 625ha in 1970/71 to 1,509ha in 2000/1. And there is

dearth of soils of a reasonably good structure and water retention; local soils have high calcium content and are generally poor in nitrogen and phosphorus.

In addition, the sector lacks qualified personnel and suffers from a relative shortage of capital investment and the know-how to diversify output competitively. Besides there is no insurance scheme against natural risks while the public sector's advisory services are in short supply (Delia, 2002: 194-214). However, the spurt in capital injection in the past few years, in particular the planting of trees and the setup of irrigation systems, stands out as an encouraging sign that has to be nurtured through clear guidelines for the future development of the sector.

Yet, these limitations of natural resources and man-made constraints have not inhibited agricultural output, although as indicated above this annual production has recorded a fall in the past six years. Malta tends to self-sufficiency in vegetables and potatoes, poultry, eggs, dairy products and pork. But the Islands rely heavily on imports of cereals, fruit, sugar, vegetable oil, and beef. *It is this local production-imports balance that is under threat!*

Past agricultural support programmes have to be adjusted to meet Malta's obligations as a signatory to the World Trade Organisation (WTO) and, more recently, membership of the European Union. In this context, it is pertinent to point out that price support programmes and other government interventions in many countries have failed to restructure agriculture on cost effective lines and, at the same time, improve farmers' living standards. Experience the world over suggests that the outcome of

in world markets and dump, internationally, the surpluses which arose from the artificially high prices maintained in the home market.

The CAP is being reformed in order to integrate the agriculture sector of the expanding European Union in a more liberalised global trade environment, a scenario assessed below. Likewise, Malta's agricultural sector has to follow suit. Its future relevance to the local aggregate value added depends critically on the adoption of the emerging international trade context, in general, and the European Union's Common Agricultural Policy, in particular. In addition, future development will have to abide by the pre-membership agreement entered between Malta and the European Union.

Any assessment of Malta's agriculture that is based on a linear projection of past performance is bound to be misleading. There has been a dual break up with the past. One follows the adoption by the National Statistics Office of the European Systems of Accounts 1995; another is Malta's membership of the European Union in May 2004. Malta got certain exemptions from following CAP for specified, short time periods for different respective products/sectors in order to enable producers adjust to the demands of a more competitive 'single market' and world trade environment. But after that transition period is over, Maltese producers must abide by the rules of the then modified CAP. Thus, for example, the number of heads of cattle per hectare, or the origin of grapes used for wine making, must abide by the conditions stipulated once the concessionary period is over.

governments' active intervention in agriculture has been paradoxically declining farmers' incomes particularly those of small farmers, high prices for agricultural commodities for domestic consumers and, in some cases, surplus food stocks that are dumped at a loss on the international markets. Such results have lead to a reconsideration of the agriculture polices pursued worldwide, including a willingness by all parties concerned to re-assess existing policy tools. For the European Union, this meant a reconsideration of the Common Agriculture Policy (CAP).

The CAP arose out of the desire in the nineteen fifties to bring agriculture within the framework of a common market and to maintain a degree of government intervention in the sector. The CAP's basic instrument is market intervention to support and guarantee agriculture prices, similar in principle to the policy instruments applied in Malta. A supported product was set three relevant prices. First, an 'objective price', which represented the price considered desirable on the basis of farmers' income requirements and, more recently, the balance between demand and supply. Second, an 'intervention price', being the minimum price guaranteed to producers through direct purchases by the Community's intervention agencies, if market factors suppress the market price. Third, a 'threshold price', which constitutes the minimum price at which foreign imports enter the community after payment of a variable level, amounting to the difference between the threshold price and the supply price of imports.

Export refunds, the counterpart of the import levy, were guaranteed to exporters to make them competitive

The two conditions that will determine the future role of agriculture in Malta's economy are examined below.

Adoption of ESA 95

The European System of National and Regional Accounts (ESA 95) was developed by Eurostat, the EU's statistical agency, in order to create internationally acceptable measures of economic activity. Malta's National Statistics Office recently introduced this statistical tool when it published the first set of data for the Gross Domestic Product at market prices. Previous compilation methods were based on guidelines developed in the fifties and sixties. As a result, data series based on the two different methodologies are no longer comparable. Besides the economic relevance of particular economic activities may differ depending on which statistical methodology is applied. The value for GDP, based on ESA 95, was topped up by an average of 7.5% for the years 1999 to 2002.

The share of the sector representing Agriculture and Fishing remains practically unchanged under the two methodologies. In 2000, the share under the United Nations' System of National Accounts 1953 (SNA53) is 2.3%; under the ESA95, it is 2.5%. In 2003, the sector's gross value added was 29.4 million, representing 1.6% of a Gross Domestic Product of Lm1.827 billion. The relative share of this sector was 4% fifteen years ago; this was very low when compared to the share of agriculture in small island developing economies, where it accounted for 17% on average (Delia, 2002: 194 and 211). These data confirm

the relatively small direct contribution of Agriculture to Malta's domestic value added and, more important, they highlight the sector's declining share.

Other economic sectors registered important shifts under the two systems of national accounts. Thus the Manufacturing sector recorded 25.6% under the SNA53 and 22.7 % under ESA95; while Construction and Quarrying increased from 2.8% to 4.6%, although now it is classified as Construction, Quarrying and Mining. Again, Transport and Communication grew from 6.5% under SNA53 to 10.7%. (Grech and Pace, 2004: 58)

These data sets rely heavily on the compilation methodology applied but also on the data sets adopted to compute price deflators and the recording of full time and part-time employment in the agriculture sector. The number of full time farmers has been a moot statistical issue for many years. The number depended on the definition of a 'full time farmer'. When a farmer was defined in the 1986 census as 'one who works exclusively in agriculture throughout the year", the number of full time farmers was reduced from 4600 to 2969. There were 1580 full time farmers in 2003, of whom 1458 (92.3%) were males. In addition, there were another 16,287 part-time farmers – 12,587 males, and 3,700 females. Altogether, they represent the total labour effort in the sector. They amounted to 4,480 Annual Work Unit (AWU) in 2003 meaning that part-time, hobby farming and seasonal demand represent the equivalent of 2900 full time farmers; one AWU is equivalent to 1,800 hours of work, the time worked by a full time person over a period of one year.

Numbers matter. Personnel represent the main asset of the industry. Besides, numbers condition all issues that refer to output, productivity and the competitiveness of local produce. Reliable data sets are a prerequisite for sound policy formation especially in an economic sector that is dominated by part time employment.

Full time farmers are relatively younger than they used to be. The median age in 2000 was 43.5 years; it was 54.1 years in 1970. Again, the mean age was 46.3 years in 2000; it was 49.9years in 1970. These data suggest that while the number of farmers has declined drastically, a relatively younger generation of farmers has prevailed. They are the ones who have to bring about the restructuring of the agricultural sector.

However, this statistic does not imply that young men and women are necessarily being attracted to agriculture. It is on the success of inducing new ideas, often associated with innovative entrepreneurial individuals from within a sector or from outside, that a re-invention of a sustainable agricultural production can be carried out in the Maltese Islands. Age becomes a determining factor in such a situation: it reflects embedded group's cultural thinking and it may influence a potential investor's willingness to risk and invest.

Future contributions by agriculture to output and the wellbeing of all those engaged in this activity will have to account for the criteria that regulate production as defined by the EU's policies on agriculture. These are now examined.

The Pillars of the EU's Economic Policies

EU member states have to be guided by a set of general principles if they want to develop economic sectors that will be viable in the long run. Any deviations from this long-term orientation are bound to be of a temporary nature. Producers will be wise to consider them only as time frames within which important restructuring has to be undertaken in earnest. Many stakeholders in EU states have been tempted to work on the assumption that the present set of 'anomalies' particular to respective countries will prevail forever. These same stakeholders are now realising that globally and within the EU economic space production and exchange conditions are evolving closer to a freer trade environment, transparent policy making and a more effective monitoring system. Producers and traders have to participate under such conditions if they have to survive and be profitable.

The main tenets on which economic activity in the EU space is based are the single market and a single currency. A single market demands a reallocation of resources according to comparative advantage in the production of goods and the provision of services. Such a set up can never emerge if regional production is continuously 'safeguarded' from more competitive production elsewhere in the economic space within the union. Hence, the medium/long term guideline for activity in the agricultural sector in Malta has to be economic efficiency based on a re-organised resource allocation – capital, land,

labour, and water - such that value added can be translated into financial gains for consumers and producers alike. A frame of mind that persists in searching for permanent exceptions to safeguard the status quo will militate against the long-term growth of the European Union; it will lead to inefficient use of resources. There is still a long way to go before this objective can be attained. But if the Union is to be consolidated and generate wealth globally and regionally, that is the way to go under the present set of rules. Safeguarding clauses do not form part of this economic scenario, unless they are applied against produce and/services coming from outside the Union.

Similarly, the adoption of the euro, the single currency of the bloc, will introduce additional constraints on local production. Local unit costs will have to be such as to remain competitive in the respective markets and reflect the value of resource inputs plus profits in euro terms both inside the EU's economic space as well as outside it.

It is in the light of these two basic parameters – a single market and a single currency – that the long term orientation of the agriculture sector has to be drafted. A policy that departs from the tenet that it wants to continue insulating the existing agricultural set up by an indefinite resort to 'safeguarding' measures is not on. The farming and herding communities have to be guided and encouraged to re-assess their productive role and, in turn, to undertake the investment decisions that will transform the present agricultural set up. Land consolidation, water conservation measures, intensive farming based on high value added crops and minimal

water usage, a reconsideration of the markets for animal breeding, insurance of agricultural output, and processing of agricultural produce – not necessarily local produce- have to fit these economic constraints.

In addition, future development of the sector – and, hence, its contribution to the economy – will depend on four important aspects of policy. These are: 1) the policy the EU adopts in the World Trade Organisation, particularly in relation to agriculture; 2) the use and cost of water in agriculture; 3) the functionality of organisations in the sectors, in particular co-ops and producers' organisations; 4) educational training and land availability. These issues are not given due consideration in recent reports on Maltese agriculture. They are examined briefly below.

1. The EU stands at the WTO

The EU is restructuring its CAP and at the same time it is negotiating a more global liberal agricultural trade environment in the WTO. The new CAP is set to exploit opportunities under a simplified rural-development pillar, which should contribute to restructuring, through diversification, innovation and growth in value added products. Programmes determined at the local level, by local actors, are one of the most effective ways of targeting the specific needs of different regions. This is to be promoted within three axes of sustainable development:

- Competitiveness and a competitive agricultural sector;
- Land management and the environment, with a

targeted territorial strategy for tackling sustainability;
- Wider rural development in terms of enhancing the overall quality of life.

At the WTO, the EU got endorsement for its recent CAP reform and is pushing for worldwide reforms that will improve market access. Trade distorting agricultural support will be cut; trade distorting export practices ended; agricultural markets will be opened; and there will be a special and better deal for developing countries. The Doha Development Agenda is giving a clear signal that multilateral trading system can deliver on the real needs of all its members, especially developing countries. These are the main guidelines that EU farmers have to follow when planning their future.

Maltese farmers will abide by these same conditions and, at the same time, they will have to find their place in markets for produce and meat that after the first of May 2004, with the accession of ten new member countries, recorded a sharp rise in the number of stakeholders spread over a wide geographical territory. The agricultural base will initially register an increase in number as other countries join the EU in the years ahead and as global liberalized agricultural policies support trade between the EU and the Mediterranean associate member states, like Egypt, Tunisia and Morocco. Competition for agricultural produce is seen growing unless specific markets are engineered to differentiate Maltese produce but always at the 'right' price.

The 'right' price is the one that the markets indicate they

are willing to support. Past pricing policies in the Maltese Islands may militate against this competitive approach: in sheltered markets, prices are higher than those obtained on 'freer' international markets and, in turn, the resulting incomes for producers and traders are also more than those registered in liberalized agricultural trade environments. It is an awareness of this major shift in market forces that producers have to experience.

2. *The Use and Cost of Water*

Land use under irrigation more than doubled in the Maltese Islands in the past thirty years: an estimated 1,509ha were irrigated in 2000/1 against the 625ha in 1970/1. The increased supply of irrigation water raises output and the yield per hectare following investment in irrigation equipment that makes possible the intensive cultivation of agricultural land. In turn, this development necessitates an increase in fertilizer or organic matter application to maximize revenue for farmers. However, fertilizers, particularly nitrates and some elements in organic matter, find their way into the ground water to the detriment of human health. Nitrates are pronounced in the perched aquifers as these lie unconfined in important agricultural districts. (Mifsud, A; Mangion, J., 2001).

These developments cannot be observed from recorded data on water use. Statistics on water consumption in Malta, based on billed consumption, put water demand at 18million m^3, with domestic, household, consumption

making 64% of demand and farms accounting for 6% of said total. Consumption by agriculture is nil. However, an estimate of what is termed comprehensive (all inclusive) demand raises annual water consumption to 38.6 million m^3. Agriculture accounts for 14.5 million m^3 (37%) and farms for an additional 2.2million m^3 (6%), a total of 43% of consumption. Domestic consumption now falls to 34%. *Agriculture is the primary consumer of water in the Maltese Islands.* This is usually the case, worldwide. (Vide. Annex 2a and 2b).

This reassessment of water use raises an important cost consideration. Farmers are absorbing a third of water consumption. They brought more land under irrigation. But they are not accounting properly for the cost of this input. The cost composition on which they are basing their projections for crop viability is distorted. Whatever profits are being made are higher than they ought to be and unit losses are correspondingly lower.

In the meantime, due to over-extraction of water from underground springs, the volume of underground water resources is gradually decreasing and the quality of water getting inferior: nitrate contents are high and salinity rates tend to rise.

Besides, the EU's Water Framework Directive requires member states to adopt water- pricing policies by 2010 that provide adequate incentives for users to make efficient use of water resources. An adequate contribution by the respective water users will reflect the utility of this commodity in industry, household consumption and agriculture. Ideally, costs of water services have to be

recovered and account for the polluter pays principle. But to be pragmatic and, also, to take account of social and economic conditions specific to a country, the Water Framework Directive demands, at least, an 'adequate' contribution.

The present value added of agriculture and production costs may be deemed misleading from an industrial and social perspective. Intermediate inputs are under-recorded and water replacement costs are unaccounted for. The emerging cost configuration, one that includes a proper allocation for water consumption and also for new EU regulations/compliance costs, such as waste management plants, will differ from that obtained in the recent past. It is the one that will determine the competitive and profitable configuration of agricultural produce in Malta and Gozo.

The determination of the long-term sustainability of crops and animal husbandry will have to account for water absorption and the profitability per unit throughout the year. Unit profitability is established after unit costs and selling prices are known. The difference between these two sets of data derives the net benefit per crop or animal bred. This combined approach is illustrated below, drawing heavily on the presentation in Delia C (2004: 8 – 11). It is a three-step procedure.

First, derive the dual relationship under three distinct scenarios:

i) Low water requirement, low yield and low gross income
ii) Average water requirement, yield and income
iii) High water requirement, yield and gross income.

Secondly, construct the net benefit per crop by deducting the cost of water and other expenses from gross income.

Thirdly, combine the two sets of data and present them in percentage terms using the highest value per unit as a base. The highest unit is set at 100%.

These three steps are presented in graphical form below. The three sets of graphs refer to the Low and High scenarios. The complementary results under the Average scenario are presented in Annex 3. These illustrations are based on data compiled in the mid-nineties (Borg, Victor, 1997). They refer to crops currently under cultivation in the Maltese Islands. These crops are not necessarily the ones that can sustain competition within a liberalized trade environment.

Figure 2.1a: ***Water consumption (litres) per kg of crop (low)***

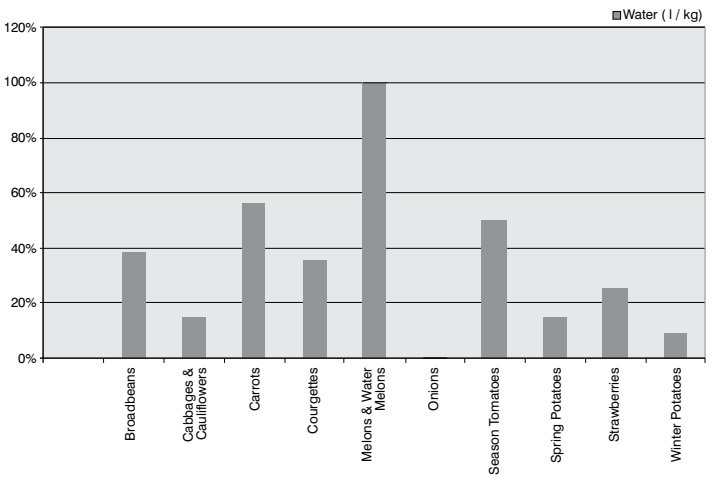
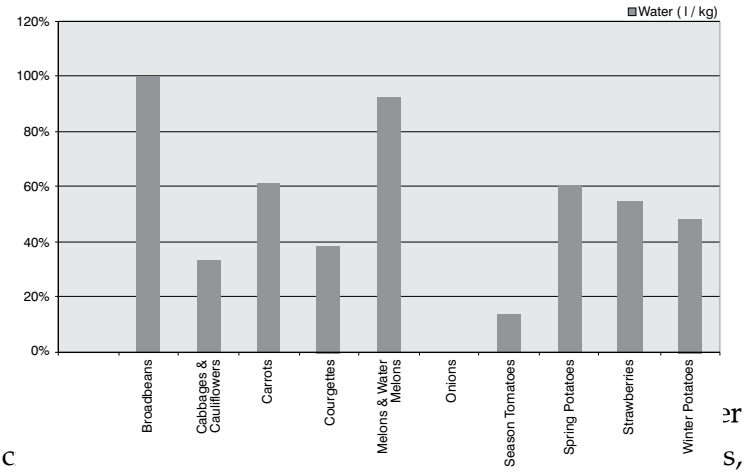


Figure 2.1b: ***Water consumption (litres) per kg of crop (high)***



by setting the highest water amount absorbed by one crop at 100%. Onions are seen to consume the least amount of water. Broadbeans consume the largest quantity under the "High" scenario; melons and watermelons come first under the "Low" conditions.

Figure 2.2a presents the relationship between costs of water, other costs and net benefit per crop under the 'low' assumption. Cauliflowers and onions are seen to yield the better value for the efforts undertaken; strawberries are grown at a loss while the return on winter potatoes is small.

Figure 2.2b presents the results under the 'high' scenario. Courgettes, melons and watermelons, onions and cabbages and cauliflowers give the best value. It is seen that the choice of produce depends on the set of conditions that

Figure 2.2a: ***Malta: cost of water, other costs and benefits, for selected crops (low)***

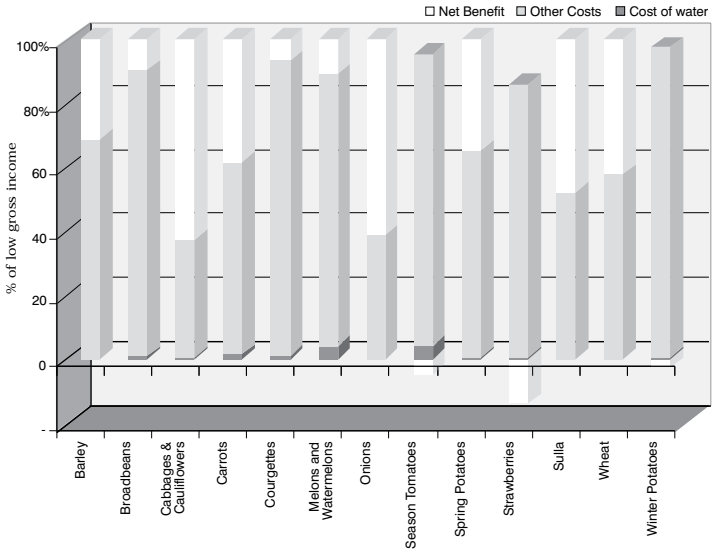
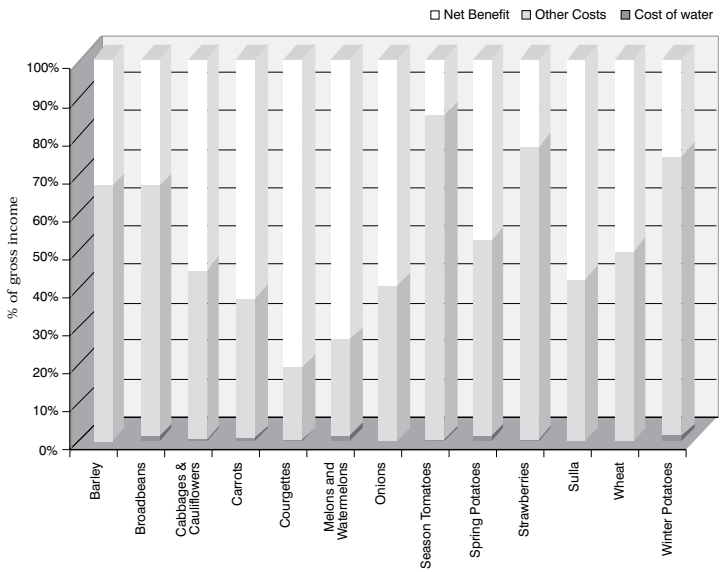
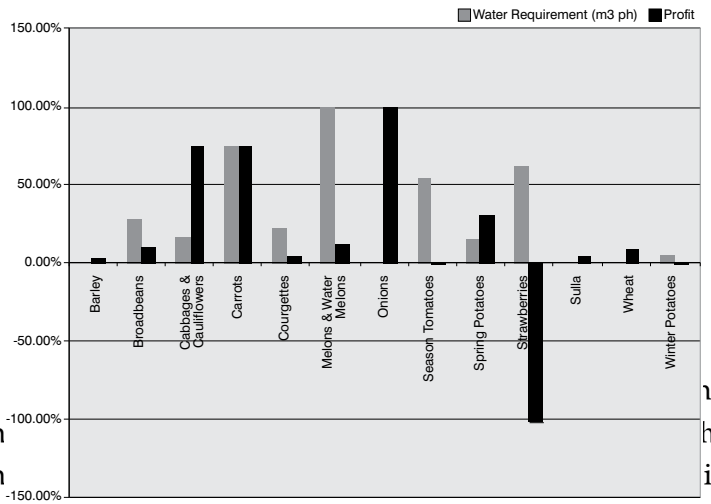


Figure 2.2b: ***Malta: cost of water, other costs and benefits, for selected crops (high)***



affect output cost composition and market prices.

Figure 2.3a: *Valuing irrigation water (low)*



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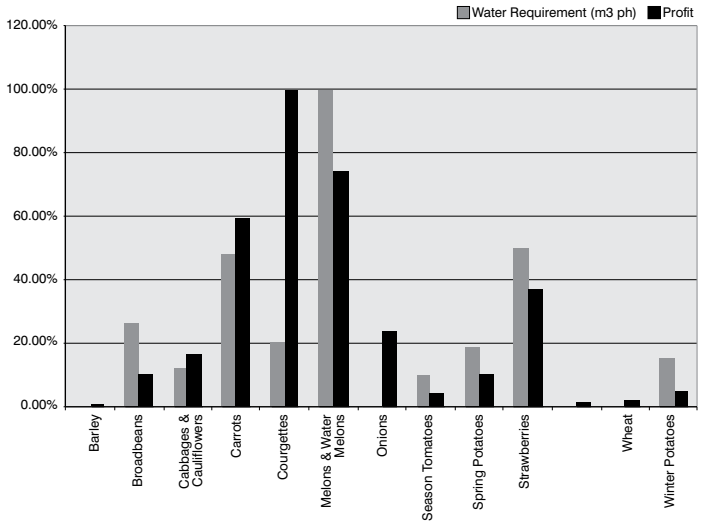
terms of the conditions described by the "high" scenario, this supremacy does no longer hold.

These illustrations convey an important policy signal. The choice of crops that Maltese farmers ought to be encouraged to cultivate for local and other markets will critically depend on the new cost and market price considerations. Aggregate costs estimates have to be all-inclusive. So, for example, one cannot omit the contribution of water if an efficient, competitive and profitable structure of crop cultivation is to be devised and implemented. Nor does one have to rely on existing distribution channels.

Figure 2.3b: ***Valuing irrigation water (high)***



All processes in the procurement-cultivation-processing-marketing chain have to be periodically assessed in order to maximize the potential share of sales that goes to growers. Otherwise, growers will deem production unprofitable, stop producing and the entire chain of economic activities will not be activated.

3. The Institutional Set Up in Agriculture

Maltese farmers organised themselves in co-operatives. The first co-operative was registered in 1947, following

the enactment of the Co-operative Societies Ordinance in 1946. For several decades, agricultural co-ops were the only co-ops in existence. Milk producers and pig breeders formed their own co-ops in the fifties and the eighties.

These forms of organisations have been generally successful, even though they were not problem-free. Thus, farmers' co-ops managed successfully their presence on the produce wholesale market and the retailing operations. They were 2700 farmer members in 2001 with a turnover of Lm3.73 million. But they were less successful in the processing of agriculture produce and wine making. Several reasons may be suggested for these shortcomings. These include the lack of proper technical and marketing management; lack of investment to keep abreast with technological progress and automation; lack of loyalty and support by the members towards their co-operative; lack of quality standard by the members; and lack of timely decision to rectify matters (Walker, 2004:29).

The Milk Producers Co-op is an example of a successful initiative. With an annual turnover of Lm6million, the co-op is well organised and safeguards the interests of its members through the management of milk quotas, high quality standards for feeds and produce, financing, and training for young members to ensure continuity. (Camilleri, 2004)

However, there is a growing concern that these co-operatives may not be in a position to induce the radical cultural and organisational transformation that a revamped CAP demands from European farmers and herdsmen. They are seen organisationally weak. Maltese farmers relied on their co-ops for guidance especially in

time of need, even though individually they may have acted occasionally independently of their co-ops. Indeed, the co-operative model was applied in the respective sub-sectors in agriculture, like pig breeding, in order to salvage producers from potential burnt out. So, failure to assume the responsibility of leadership on the part of the central administration will find the farmers and breeders without a sense of direction at a critical, demanding time. It seems that this institutional issue has not been considered hard enough, although a training programme for members of Maltese co-operatives is currently going on with the support of the Food and Agriculture Organisation of the United Nations (Juharz, 2004).

Institutions are gradually coming to the fore as key players in the economic and social development of countries. They reflect human influences on development. Those societies that have sound institutions that encourage investment in human and physical capital and the adoption of innovative technologies tend to prosper.

Sound institutions demonstrate three principal characteristics: the enforcement of property rights for a broad section of society, so that people have incentives to invest and participate in economic life; constrain the actions of powerful groups, so that these people cannot expropriate the incomes and investments of others or create highly uneven playing field; and create some degree of equal opportunity for broad segments of society, so that individuals can invest and participate in productive economic activity.

Co-operatives have to be considered in this institutional

context and their functionality assessed in terms of their relationship with personal fulfillment, economic growth and social cohesion. This is especially true for agriculture, where co-operatives have been the main organisational instruments for the past half-century. Therefore, their future role in this sector has to be examined, in particular since another organisational set up, the producers' organisation, is now a necessary instrument through which product regulation in a market may be upheld and funds attracted from the various support programmes of the European Union.

The EU's agricultural support programmes will emanate from a restructured Common Agricultural Policy. The shift in emphasis from transferring funds in relation to output to transferring funds in terms of a restructuring programme is bound to affect in a multivariate way agricultural producers in the various sectors. And members of co-operatives are expected to be affected differently one from another.

Agricultural co-ops in the European Union are currently in a state of transformation. The economic, social and legal environments of co-operatives are changing, and they demand adaptive measures on the co-ops' part. The withdrawal of government control from the market, public policy, international trade liberalisation and expansion, new technological developments, changing consumer demand, concentration and integration processes in other segments of the product and marketing chain are examples of this changing environment that are bound to impact heavily on the role and development of co-operatives.

Besides, the co-operative model has to be assessed in the context of evolving thoughts on competition policy. Specifically, in Malta there has been a challenge to the Act on co-operatives using arguments on collusion, freedom of trade and consumer choice. The uneasy legal position between competition rules and co-operative structures and behaviour has to be clarified in the interests of production, trade and freedom of choice. This is especially true for the EU region that presently envelops a diversified array of co-operatives following the accession of countries from Eastern Europe.

The forthcoming challenge affronts all co-ops in the EU. The EU Commission claims that there are many benefits arising from the new approach to agricultural support: more focused market orientation, simpler and less distorting support, strengthening of rural development, and a standard-related (food safety, animal welfare, plant health and the environment) transfer of funds. The final impact of this new policy thrust on farmers and co-operatives is not outrightly clear. Apart from the de-coupling of payments, there is the leeway given to individual governments to implement the support schemes. So the way the Malta government will interpret the modified CAP and translate its clauses into technical and financial support will be deterministic for the future development of the agriculture sector in Malta and Gozo.

The emerging restructuring process is doubly demanding for Maltese co-ops that seem to miss strong leadership. The absence of a foresighted and effective leadership is also reflected in the sector's failure to set up producers'

organisations as the EU's agricultural support network demands. Producers' organisations are product oriented and they expect a stronger commitment on the part of members than that shown to date by some members of the agriculture co-ops in Malta. Although members of producers' organisations retain a degree of freedom to sell part of their produce to traders outside the organisation, yet the greater share of their output has to be sold or processed through the organisation. These organisations bring together not only producers of a good but also processors and sellers. Understanding the expectations and demands of players outside the agricultural sector is a pre-requisite for the success of such organisations.

The formation of producers' organisations and the restructuring of agricultural co-operatives in terms of the new trading domain is a matter that demands urgent attention. It is a priority area that will critically determine the future of Malta's agriculture. In turn, members of these organisations must evaluate critically past structures and costs, like for example the quota system and its induced heavy fixed costs. Successful and profitable operations in a sheltered market may prove to be detrimental to sustainable performance in a liberalised environment.

4. Farmers' education and land availability

Survival of agriculture in the Maltese islands demands a new way of operation and/or identifying new demands and meeting them at a profit. There is the need for formal training in 'innovative' farming and animal breeding and

in carrying out agri-business. This experience has to be hands on: it implies a system in which placements on farms in Malta and elsewhere form an integral part of the formation process. At present there is no synergy between formal instruction and everyday life on a farm or field. This means that the transaction costs incurred in the search for knowledge and direct experience are higher than warranted. In turn, the expected rate of return from investment in agriculture is lower than it could be. A revamped co-operative/producer organisation set up can collaborate with academic institutions (Institutes of Agriculture at the Malta College of Arts, Science and Technology and at the University of Malta) in order to provide courses in which practical experience complements pure theory.

At the same time, land has to be found in order to enable 'landless' graduates with the physical space where they can implement on commercial scale the production of goods deemed profitable.

At present, unless these students come from land owning households, they will find it impossible to get land at competitive prices. The present land tenure system, supposedly meant to protect the farmers and cultivation, seems to be a heavy deterrent to potential cultivators. Asking prices reach Lm90,000 per hectare. This attitude of holding to land, rented at very cheap prices, is being reinforced by the prospects of land speculation especially now that Malta is a member-state in the EU. The land tenure system needs to be turned into a mechanism that enables the enhancement of the infrastructure in the

countryside and to render the Islands green especially in the summer months.

There cannot be an agriculture policy in isolation from land use and rent policies. They go together. By fragmenting decision making on these issues, policy makers will render a holistic approach to the development of agriculture impossible. The future economic significance of the agricultural sector will remain an unknown!

Summary

The agricultural sector stands at a crossroads in the Maltese Islands. Its share of total value added has been steadily declining over time. Employment is presently reliant on part time activity, like in many other European countries: part-time farmers represent the equivalent of 2900 full timers, making part-time activity around two-thirds the aggregate labour complement in the sector.

The sector survived under a system of controls and price supports meant to safeguard the income of farmers. However, an evolving world market for agricultural goods and Malta's membership of the European Union mean that a searching evaluation of past performance has to be undertaken with an aim of identifying the cultural and capital gaps that have to be bridged if the sector's future is to be ensured. Failure to achieve competitive sustainability will mean that the Maltese Islands will have to import all their agriculture produce with little to export.

A dynamic policy guideline is required for the sector

to survive and prosper. To ensure this, production has to be supported by judicious investment, sound farmers' organisations, a demand-driven marketing approach, and a cost-effective strategy that accounts for the scarcity and quality of water resources and other costs unaccounted for to date. At present the sector is suffering from the absence of clear guidelines for future development and a dearth of leadership at the 'traditional' organisational set up, namely the agricultural co-operatives. The agricultural sector may have to be re-invented in order to identify a 'new' range of products that can stand on their own in a diversified system of markets for agricultural output.

At the same time, it has to be ensured that pragmatic training programmes are truly integrated with economic reality: the country cannot afford to invest intensively in young people to follow professional approaches in running agricultural business and does not create opportunities where these skills can be exercised effectively. There is a dire shortage of land on which these young agricultural graduates can practice what they learn, and there is an inadequate apprenticeship related system that facilitates the exposure of learners to day-to-day reality. There cannot be a sustainable, long-term programme for agriculture that is drawn independently of planning on land use, land consolidation and rent. Potential entrepreneurs will consider the current prices for land to be used for agricultural purposes as a non-starter in the present circumstances.

Descriptive reports, outlining superficially the barest characteristics of the agricultural sector in the Maltese

Islands, will get the sector nowhere. The reformed Common Agriculture Policy of the European Union demands dynamism in anticipating change and a rapid response to such situations. A fossilized defensive mentality, the product of years of protective policies, militates against such an approach.

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Annex 1a

Factor Income at Current Market Prices (Lm000)

	1998	
Total gross production at producer Prices	**61,400**	**54,875**
Less losses	(2,081)	(2,326)
Total final production at producer prices	**59,319**	**52,548**
Add subsidies to production	135	4,051
Total final production at basic prices	**59,454**	**56,599**
Less intermediate consumption	(28,757)	(27,200)
Gross value added at basic prices	**30,697**	**29,399**
Less fixed capital consumption	(1,832)	(1,729)
Net value added at basic prices	**28,865**	**27,670**
Add other subsidies not directly linked with production	300	268

1999	*2000*	*2001*	*2002*	*2003*
61,242	**57,140**	**59,864**	**59,499**	
(2,111)	(2,132)	(2,361)	(2,392)	
59,150	**55,008**	**57,513**	**57,107**	
129	119	128	799	
59,260	**55,127**	**57,641**	**57,906**	
(29,393)	(27,258)	(28,354)	(28,680)	
29,867	**27,869**	**29,287**	**29,226**	
(1,838)	(1,708)	(1,790)	(1,800)	
28,029	**26,163**	**27,497**	**27,426**	
300	300	300	429	

Factor income at current prices	**29,165**
28,320	**26,463**
27,797	**27,855**
27,938	

Source: National Statistics Office, Malta, ***Economic Accounts for Agriculture 2003***

Annex 1b

Indices of Real Output of the Agricultural Industry (1998 = 100)

Year	Real output of the agricultural industry	Index of real livestock products	Index of real animal products	Index of real crop products	Index of real wine
1998	100.0	100.0	100.0	100.0	100.0
1999	97.0	97.9	96.5	96.9	85.0
2000	89.5	94.0	94.9	82.4	72.2
2001	88.6	94.5	90.2	8209	

50.8				
2002	87.0	95.1	87.0	79.8
76.6				
2003	84.1	91.3	94.8	71.2
76.0				

Source: National Statistics Office, Malta,
Economic Accounts for Agriculture 2003

Annex 2a

Estimated All-inclusive Consumption of Water in the Maltese Islands in the year 2000

Categories	*WSC Billed Consumption*	*Non-Conventional Sources*	*Total*
(m^3)			
Domestic	11,435,000	2,000,000	
13,435,000			
Tourism	1,448,000	1,500,000	
2,948,000			
Farms	1,139,000	1,100,000	
2,239,000			
Agriculture		14,500,000	
14,500,000			
Commercial	1,028,000		
1,028,000			
Industrial	1,333,000	1,500,000	
2,833,000			

Government	1,391,000	
1,391,000		
Others	228,000	
228,000		
Total	***18,002,000***	***20,600,000***
38,602,000		

Source: Carmen Delia, 2004, *Economic Considerations Regarding Markets for Water in the Maltese Islands*: p. 4

Annex 2b

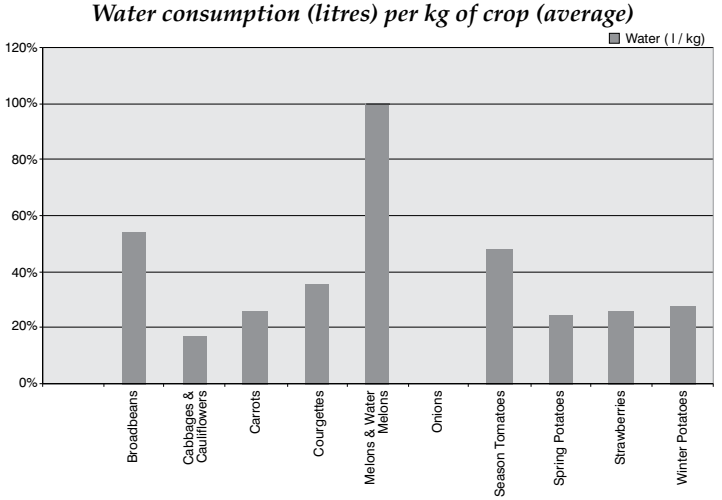
Relative Demand for Water as measured from Billed and Estimated Comprehensive Data presented in Table 2a

Categories	**Billed Data (WSC)**	**Non-Conventional Sources**
Domestic	64	34
Tourism	8	8
Farms	6	6
Agriculture		37
Commercial	6	3

Industrial	7	7
Government	8	4
Others	1	1
Total	**100**	**100**

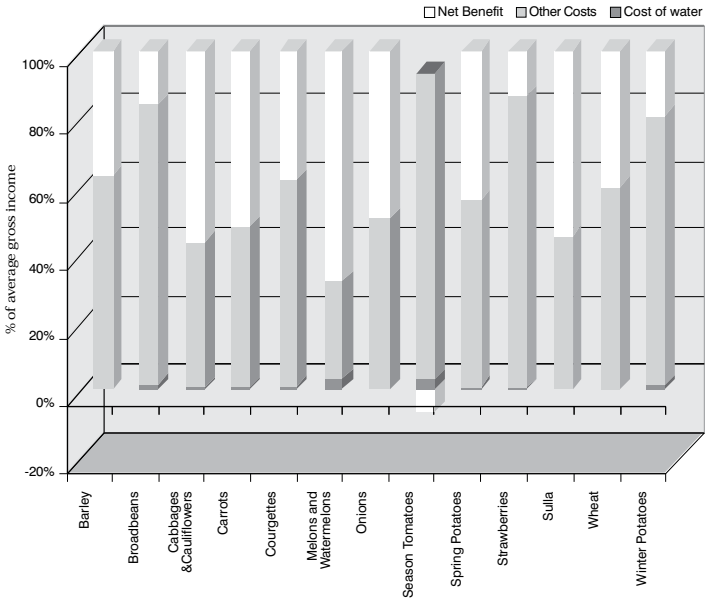
Annex 3

Relationship between Water Consumption and Net benefit by crop based on the assumption of Average water use, yield and gross income

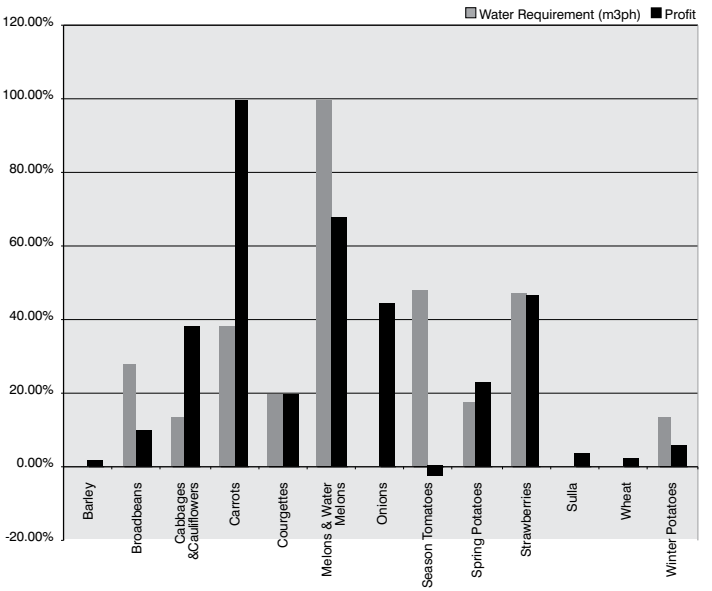


Source: Delia C, 2004, p. 30, 31

Malta - cost of water, other costs and benefits for selected crops (average)



Valuing irrigation water (average)



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