Chapter 15

VERTICAL INTEGRATION AND DEVELOPMENT OF FARMS: THE PERFECTING AND DIFFUSION OF INNOVATIONS IN INTEGRATED SYSTEMS

BY

JOSEPH LE BIHAN

Institut National de la Recherche Agronomique, France

I. INTRODUCTION

This paper proposes to examine certain effects of the vertical integration processes on the pace and methods of development of agricultural plants and, especially, the problem of the perfecting and diffusion of innovations in integrated systems. This is a field of research almost totally unexplored, however strange that may seem, and this paper contains many more working hypotheses or question marks than actual results.

With the gradual industrialization and urbanization of an economy, the growth of farms is more and more conditioned and carried along by the pressures of the ancillary and processing industries. The mechanism of this growth is relatively well known at least from the qualitative point of view and can be broken down into three elements:

(a) *The regular increase of input purchases by farms* and the *technological invasion* of the ancillary industries by a stock of scientific knowledge incorporated in their products (fertilizers, seeds, pesticides, feeding-stuffs).

(b) *The pressure of the final consumer* whose needs are increased and...
The Problems of Vertical Integration and Innovation

are transmitted by the processing and conditioning industries and their distribution system.

(c) Improvement in the co-ordination between the different processes of the ancillary industries, of farming and of the processing industries and also the setting up of powerful integrated centres of decision possessing the commercial, technical and financial means of orienting and accelerating the development of a vertical unit in the agricultural and food economy. This element simply means the development of a pattern of organization corresponding to the technological possibilities and commercial opportunities arising from the two preceding elements.

The centralization of the power of intervention and, above all, the creation of organic and hierarchicall links between the various elements of the production plans (marketing, credit, production methods, inputs), allow the integrating firms to increase the timing and intensity of their pressure on the growth of the farms linked to them by contract or by equivalent ties. In order to understand the importance of this pressure one must take into consideration at the same time:

(a) The influence of the integrating firms which may vary from firm to firm; and

(b) The resistance of the environment which is likely to be particularly strong in the field of agricultural products because of structural inflexibility, attitudes of non-acceptance or of acceptance, level of education and resources, etc.¹

In the limited framework of this paper we shall examine first the methods of gaining control over the agricultural production units adopted by the integrating firms, leaving aside any kind of constraint which could diminish their ability or desire for action; and secondly, the potential for research-development and innovation diffusion existing in the ancillary and processing industries. The first point allows us to give a general and theoretical view of the possibilities of intervention by the integrating firms, whereas the second touches on the study of their real innovation capacity (perfecting and propagation).

¹ We should also measure the consequences of these 'pressures' on the internal dynamics of the farm in terms both of direct influence on the integrated sub-group, and of indirect influence on the non-integrated sub-group. However, these aspects of the problem lie beyond the limits of this paper.