

TOBACCO GROWING AND RURAL WELFARE I¹⁾

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INTRODUCTION AND SUMMARY

The problem which is dealt with in this article concerns the influence of the system of marketing on the way tobacco is cultivated.

Tobacco has much in common with other cash crops, but it also has certain peculiarities which make the realising of a good production system more difficult. One of them is that while tobacco can be considered as a luxury product, at the same time it is something which many people are so accustomed to that they will buy it, even when they have scarcely enough money for food. This may be one of the reasons why, as we will see in the following, there are such different ways of producing tobacco — why in one region everything is done to improve quality, while in another the only important thing seems to be to obtain the product at a low price.

Tobacco is often grown by poor and primitive peasants in regions where development work is needed. An important reason why this article has been written is that tobacco can be a steppingstone towards a better agriculture in general. Tobacco was and often still is the first cash crop grown in areas where primitive subsistence farming prevails. If one succeeds in growing it on a commercial scale, possibilities non-existent before to improve the culture of foodcrops will appear, because to produce tobacco in the right way, organisation of peasants and regulation are needed which are beneficial also in other farming activities. These regulations and organisations can not easily be effected if only subsistence crops are grown; for without cash crops people will not take the trouble to come to agreements which will lead to good rotation and improved methods. The money which a cash crop as tobacco can bring in, specially when grown in such a way that a homogenous product results, will make it possible to effect organisation and to overcome the assumed inconvenience of following standard methods.

But tobacco growing can also be a hindrance to development: well known are the cases in which a poor peasant, bound to a merchant by advances in money, toils in the field to produce a crop which will give more profit to the moneylender-merchant than to him. In other cases it may be unrestricted competition of buyers which will ultimately act disadvantageously to the farmer. Whereas of other products inferior quality may become unsellable, for tobacco nearly always a market can be found because of its nature as a narcoticum. Merchants, in their desire to obtain the material cheaply, can force each other to accept leaves which have not been treated in the right way. This is a hindrance to improvement of growing methods. It may be a reason to grow more, with less care, which will result in still lower qualities and prices and ultimately to loss to the grower.

These situations will be described, and we will see the main problem to be how to coordinate the interests of farmers and merchants. This coordination has proved to be possible. If grower and buyer help each other, much more profit can be made by both. And it is necessary because of the special marketing difficulties of tobacco. To understand these difficulties, also some technical knowledge of growing and curing is needed.

A short description of these activities is therefore given in the first section of this article. The following section gives an enumeration of the different systems of production which exist or existed and how and why they changed. The last section gives a lead to find solutions under different circumstances.

The article is not meant for experienced tobacco growers but for all persons who have to do with rural welfare, be it local officials or those of a central government or workers in an international organisation. For those who do the practical education work in the field, a second article will follow, giving informations of what can be done under primitive conditions.

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Species, types and varieties

Of the genus *Nicotiana*, only two species are used for smoking. *Nicotiana tabacum*, the common tobacco, and *Nicotiana rustica*, the plant with the yellow flowers, which is grown more often to obtain an insecticide.

In the following we will deal only with the common tobacco, of which exist a large number of types and varieties. These can be divided into two main groups, cigar tobacco types and types for cigarette tobacco. Cigars and cigarettes are not so much different because of their form as because of the chemical composition of the tobacco. Cigarette tobacco is high in sugars, cigar tobacco does not contain them; the smoke of cigarettes is acid, that of cigars alkaline and many more of such differences exist. Although these depend primarily on the variety to which the plants belong, one can, to a certain degree, obtain a product more like cigarette tobacco or more like cigar tobacco by changing the methods of cultivation and curing.

There are countries where one has two crops of tobacco in a year, of which the one gives cigar tobacco and the other cigarette tobacco. Formerly the farmers used the same seed, but now one grows varieties specially suited to give cigar tobacco, in the wet part of the year, and others which, in the dry season, will give cigarette tobacco. In this connection may already be remarked that it would not be wise to introduce in a new area, the growing of two tobacco crops per year, not only because of the danger of pests and diseases, easily surviving when there is tobacco the whole year round, but because people would confuse the two methods of growing and curing, which in many respects are each others opposites.

Two groups of varieties are specially suited for cigarette tobacco, Virginia and Oriental or Turkish tobaccos. Burley types, which are not real cigarette tobacco varieties, are used in blending. For the matter of cigar tobacco, which varieties will be grown depends largely on the question whether local circumstances will allow one to produce wrapper, binder or filler. Filler tobacco must have a special taste and aroma but need not be very thin and elastic. Binder and wrapper leaf should be elastic, and especially upon the last, high demands are made.

There are countries where no selection has been done in one or in the other direction and where the merchant buys what is available, selling the top and some of the bottom leaves to factories producing cheap cigarettes and exporting the middle leaves as cigar filler or binder. Tobacco from regions where no specialisation has taken place is mostly cheap. This may be a reason why some cigarette companies or state monopolies produce black cigarettes, made out of the leaves of plants which neither belong to a real cigarette tobacco variety nor to a cigar tobacco variety. But the trend in the whole world is to smoke cigarettes of the English type, pure Virginia, or the American blend of Virginia, Burley and Turkish. Cigars which are smoked today are lighter than those which our fathers used and the world market demands nowadays a thinner leaf with lower nicotine content. When a primitive tobacco culture of a certain region has to be improved, one has first to see which types can be sold and which can be produced, before knowing the direction in which to proceed.



FIG. 1 PRIMITIVE SEEDBED WITH A SHADE OF PALM LEAVES.

(Photo from : Ir. G. L. Wanrooy. *Penuntun bertjotjok tanam dan membuat tembakau sigaret di Indonesia*. Courtesy Messrs : J. B. Wolters Publishers, Groningen, Holland).

Growing the tobacco

Tobacco is a crop which cannot be sown directly in the field but needs the raising of seedlings, which have to be planted at the right moment. There are many primitive ways of growing seedlings which appear to be acceptable, but they can be used only where the whole culture is primitive and does not supply the qualities the market asks for. To improve such a tobacco culture, one must directly switch over to a perfect method of raising seedlings. This may sound strange to persons used to evolutionary ways, but it is necessary because all further work depends on good seedlings and it is possible because only a few trained men and a comparatively small plot of land are needed.

A central seedbed plot makes good supervision possible. One can use one kind of pure seed and avoid spreading of diseases. Also such a plot, made for several peasants, can lead to the first step in cooperation, which is so necessary in growing tobacco.

Planting out of the seedlings was in former times often done in virgin soil and nearly always tobacco was the first cash crop of new settlers. It was not necessary to uproot all trees or to plough. The tobacco plants grew well in the forest soil, rich in nitrogen and other plant foods. One obtained a dark product, with much nicotine. Nowadays such a type of tobacco is only seldom asked for on the international and even on the local market. The demand is for lighter types and most of all for bright cigarette tobacco. This needs a soil which is rather poor in nitrogen and which therefore also should not contain too much humus.

Moreover the most used cigarette tobacco, the Virginia, has to be cured with hot air in special, rather large buildings, flue-curing barns, which must be

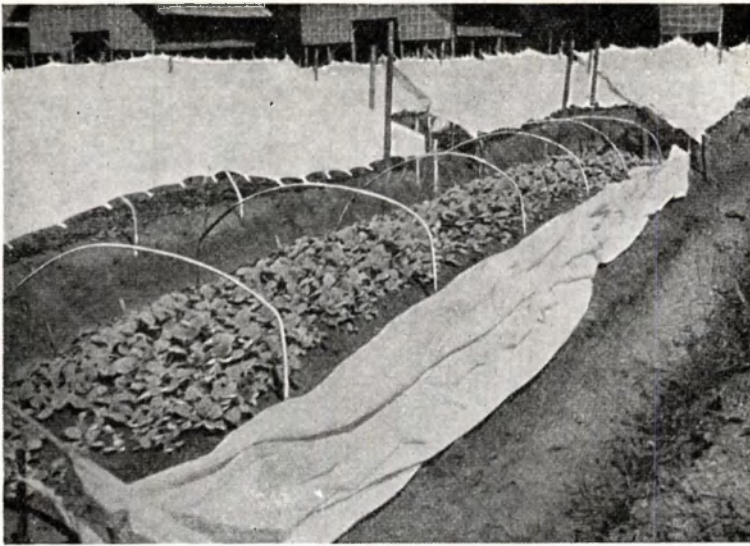


FIG. 2 SEEDBEDS COVERED BY COTTON CLOTH. IN STEAD OF IRON WIRES, BENT STRIPS OF BAMBU ARE USED TO SUPPORT THE CLOTH. THE BED IN FRONT IS UNCOVERED TO SHOW THE SEEDLINGS. OF THE OTHER BEDS THE CLOTH IS PUT IN AN INCLINING POSITION TO LET THE MORNING SUN SHINE ON THEM.

(Photo from : Ir. G. L. Wanrooy. *Penuntun bertjotjok tanam dan membuat tembakau sigaret di Indonesia*. Courtesy Messrs : J. B. Wolters Publishers, Groningen, Holland).

filled with homogeneous material, which can only be obtained from homogeneous fields. One will therefore have to select a large field, without irregularities such as termite hills, remaining tree stumps etc. and prepare this field in such a way that, although containing less organic material, it resembles forest soil by being loose but still having a sufficient waterholding capacity. One will, in other words, have to plough or hoe ; and for certain soils deep ploughing will be needed to obtain a good tobacco crop.

The fact that a large field has to be treated, points directly to the necessity of cooperation of a rather large number of peasants, since small farmers such as are encountered in areas where rural welfare work is done, will not be able to do the work sufficiently. Where shifting cultivation is still more or less the rule, peasants will continue to grow their crops with little or no tillage even if the soil has become hard and compact. One could introduce small ploughs and teach the handling of drawing animals, but as with the seedbeds, also here a big jump will have to be made at once. The ploughing has to be done with modern implements, either on cost of the Government or by the company which will buy the tobacco grown on such a field. Where ploughing is not possible, one should induce the peasants to make ridges to ensure that the plants come in soil to which a sufficient tillage has been given.

After planting, eventually also watering and shading the seedlings, the first work is refilling. Nearly always a few plants will die or be eaten by insects. New ones have to be set, not with the aim of planting as much as possible per acre, but to avoid open spaces which would cause irregular growth of the remaining plants.



FIG. 3 FLUE-CURING BARNs WITH DIFFERENT SYSTEMS OF VENTILATION. ONE REGULATED FROM OUTSIDE, THE OTHER FROM THE INSIDE.

Very soon weeding will be necessary. This can be combined with "earthing-up", by which is meant to bring more earth around the stem, to enable the plant to make new roots in well aerated soil.

Near the end of the growing period of most tobacco types, the flower buds have to be taken away (topping) and also the side shoots (suckering). The aim of this is to obtain larger and thicker top leaves. It is nearly always done with Virginia tobacco and with some types of cigar tobacco but never with Oriental tobacco.

Harvesting and curing

The leaves of a tobacco plant are not all the same. The lower ones, called lugs, are thin. Physiologically and chemically they differ from the ones placed higher on the stalk. The top leaves again have another character than those in the centre of the plant.

Leaves of different plants may also differ, but if the plants belong to the same variety, grown under the same circumstances and treated alike, all leaves of the same position on the stalk will be similar. The lower leaves of a plant ripen earlier than the higher ones and therefore, as a rule, not one but several harvests are necessary, two to three leaves being picked at a time. This method of harvesting is called priming.

A leaf is ripe when it starts to lose some of its vitality. The signs of ripeness are quite different in leaves of different stalk position. To obtain a homogeneous product it is of utmost importance that all plants in one field are of the same age and have been treated alike.

There are many factors which influence the character of a leaf and as we will see later, only similar leaf can be cured together. It will than be understood that one needs a regular field of such a size that one harvest will fill a curing barn, at least in the case of flue-curing. This is possible on an estate



FIG. 4 PRIMITIVE AIR-CURING SHED WITHOUT SPECIAL ARRANGEMENTS FOR VENTILATION.

but difficult to realise when tobacco is grown by individual small farmers. Exactly this method of harvesting leaf after leaf and the fact that many plants have to be transplanted at the same date, makes it difficult for small peasants to grow a large area. The answer of the problem can be found by laying several plots together.

There is still another method of harvesting. By this, the whole plant is cut off. This method, called stalk-cutting, is used to economise on labour and since it is more a work for men than for women and children, is practised often by larger farmers who have labourers. But this method can only be used for certain tobacco types and, because the leaves are cured when still on the stalk, the chemical composition of the tobacco will not be the same as when priming is done.

The process which tobacco undergoes after harvest, is not simply making the leaves dry. Therefore the word curing is used and not drying. We could define good curing as treating the leaves in such a way that undesirable compounds are eliminated and compounds which improve quality are retained.

There are different ways of curing, such as air-curing, flue-curing, sun-curing and fire or smoke-curing, each leading to a different product. That it is not simply drying, can best be seen from the flue-curing process.

The word flue-curing, derived from flue (flamepipe) is not correct anymore today, because also oil burners and electric heating are used. A more correct word would be : hot air curing. This process, which is used only for Virginia types, takes about 5 days. It is divided into three periods, yellowing, fixing the colour and drying. During the first period, losing of moisture out of the leaves is avoided as much as possible. A building is used, which can be totally closed, so that the humidity of the air can be kept near a hundred percent. The harvested leaves should be hung in the building as fresh as possible. They are then still alive and the bio-chemical reactions of a ripening leaf go on, with this difference ; that no transport from the stem of the plant

to the leaves or in the opposite direction is possible. What one can see during this period is that the green colour of the leaf disappears and a yellow colour remains. Inside the tissue the starch is transformed into sugars, whereas the protein compounds, which would give a bitter taste to the tobacco, are broken down. After the green colour has disappeared, one starts to dry the leaf by raising the temperature and by restricted ventilation (the so called fixing of the colour). Later on more ventilation and higher temperatures are used. If the drying is not started soon enough or goes too slow, the yellow colour changes into brown and much of the sugar is lost.

Since a leaf which was already rather yellow in the field needs fewer hours to become totally yellow than a leaf which was picked in a more vital stage, it is evident that all leaves in one barn must have the same stage of ripeness. When this is not the case and ventilation together with a higher temperature is given, because most leaves are yellow, those which are still green will dry up green and be worthless, whereas if one waits for the last ones to become yellow, the first yellowed leaves will turn brown.

The time needed for yellowing also depends of other factors such as stalk position, fertility of the soil, variety, etc. This is the main reason why it is so important to have a regular field with plants of the same variety, the same age and treated alike. Where freshly harvested leaves are bought up from a large number of small farmers, curing sometimes leads to a failure and big financial losses.

When tobacco is air-cured, the leaves are hung in a more or less closed shed, without a special heating system. The time needed for yellowing and for drying is longer, whereas the endproduct will not be yellow but brown. Homogeneity of the leaves is not so important as in flue-curing, but should not be neglected.

Grading and fermentation

We have seen that lower leaves differ from leaves of higher stalk position. Also after curing the difference remains and since tobacco must be graded into different qualities and kinds, which have their special place in manufacturing, it is self-evident that one will keep the successive harvests separate. Grading is mostly done by the buyer, who has special buildings where a certain humidity of the air is kept and diffuse light is available to enable the graders to distinguish colours and feel the texture of the leaves. When instead of freshly harvested leaves, cured leaves are bought from the farmer, the buyer will appreciate his cooperation in delivering the successive harvests, separately, since if this is not done, grading will be a difficult and costly work.

Directly after curing, tobacco is not yet suitable to be smoked. Specially cigar tobacco leaves will still contain compounds which would cause a raw or bitter taste. These compounds can be broken down by enzymes or ferments. To reach this aim the tobacco is put into large heaps, in a rather moist condition. Much experience is needed to know exactly how quickly and to which degree the temperature of these heaps is allowed to rise for a certain kind of tobacco, to give a suitable fermentation. This work is seldom done by farmers but by companies or merchants who have large buildings for this purpose.

Flue-cured Virginia is not fermented in this way because it would lose its yellow colour. To make it suitable for storing, during which time a very slow fermentation takes place, it has to obtain a certain low moisture content. For this purpose it is passed through a redrying installation, an expensive machine, which only large companies can afford to buy.

Judgement of quality

When one has started tobacco growing in a new area or has introduced a new type, one is inclined to be hopeful when one sees the plants grow well, but success will depend in the first place on the quality one obtains. If samples of the cured product are given to an experienced tobacco merchant, much can be told by him regarding the quality, by observing colour, smell, thickness, elasticity, etc. However, if the same samples are given to different merchants, one will hardly ever obtain the same judgement. It is advisable to send also samples to a laboratory where one has experience in analysing tobacco. Such an analysis will not give a definite answer but is more detached than the judgement of a merchant.

Specially if the samples are originating from a region whence never before tobacco came to the market, traders will be reluctant to give a favourable judgement, because the new tobacco may have an excellent quality, but it will not be exactly the same as one of the types known in commerce and to the manufacturers. It will be difficult to introduce such a new type on the market. The manufacturer cannot use it for his established brand and he will only think of introducing an other one, if he is sure to get the new tobacco regularly and in sufficient quantities. A welfare service or even the government, cannot easily guarantee this. Help will have to be obtained from a company willing to undertake the production of large quantities of the new type.

Recapitulation

From the foregoing technical data we can already conclude that cooperation of a group of farmers and also cooperation between them and the buyers may be very desirable for the following reasons:

- 1 One pure strain must be grown, obtained from one central nursery.
- 2 Curing can be done successfully only if the barn can be filled with uniform material.
- 3 Where farmers do the curing, they should keep the harvests separate.
- 4 The farmer cannot supply a finished product out of which cigars or cigarettes can be made directly.
- 5 Finding new markets without the help of a tobacco company is practically impossible.

There may be more reasons for cooperation, e.g. where tobacco is grown under irrigation or where a joint action is needed to counteract a pest or disease, but the foregoing gives sufficient reasons to discuss the different possibilities which exist for cooperation.

METHODS OF PRODUCTION AND THEIR PROBLEMS

Intermediate forms between estates and peasant agriculture

When considering tobacco in connection with rural welfare, one is inclined to think of small individual farmers, but in some countries there are still large plantations (centrally operated estates).

The companies, which run such plantations, have to employ many persons: supervisors and day labourers. The total cost of labour is high but by controlling the whole production process from sowing the seed till the selling of the ready product, a high quality can be obtained and profit made. However, to avoid the high costs of labour, several modifications have been made. These consist in contracts, in some form or the other, with farmers to grow the tobacco, which is then cured by the company.

Between the two extremes, the tobacco estate where pure varieties are sown and scientific methods are used to produce high quality and the merchant who buys whatever mixture of types and qualities is available, intermediate forms of production have come into being.

In these forms one sees two opposite trends: to use as much as possible the perfect methods of an estate and to find the cheapest way of obtaining tobacco. To get good qualities, a company may supply the farmers with seedlings of pure breed, give them advice regarding planting and harvesting or even bind them by contract to follow the methods desired by the company. To obtain the tobacco at a low price, use is made of advances in money, which impede the selling to an other company. There are even agreements by which the crop is sold before it is planted. The money is then paid out periodically, depending on the amount of work done by the farmer. This may lead to a situation in which the peasant is totally dependent on the tobacco buyer.

Other reasons why intermediate systems of production exist, are connected with the form of land tenure and with the fact that a company is often not interested in the growing of other crops besides tobacco. BINNS (5) describes different types of land tenure of estates; only seldom the company has full right of ownership and often small farmers are living on the estate. There is scope for crops other than tobacco since this cannot be grown the whole year and also because rotation is necessary. As a rule, the other crops are not grown by the estate but by the labourers of the estate. These are not real day labourers but more farmers who work only a part of the year for the estate. Their payment is mostly low, because they have the free use of some land to grow subsistence crops. The estate can, however, decide which crops are allowed and where.

In other regions, the estate does not have land but rents it from farmers under conditions which favour the production of a uniform crop. By renting all the fields of a certain area, the estate can make them to large homogeneous parcels, which will facilitate tillage, planting systematically and good harvesting. The landowners have bound themselves not to grow tobacco on any remaining land and are employed by the company during the tobacco season. They are then juridically considered as labourers, planting tobacco with seedlings supplied by the estate and in such places and manners as directed by the estate. Only they do not receive their wages weekly, but when bring-

ing the fresh harvested leaves to the drying sheds of the estate and their wages depend on the amount and quality of the tobacco brought in. It will be understood that the farmer does not consider this money as earned wages but as the price paid for his tobacco. However, by this method the estate or better said producing and processing company, makes certain that it receives all the tobacco and can determine which variety and which agricultural methods will be used.

Again in other regions no land is rented but the company makes an agreement with farmers to buy their harvested leaves. Such a company may employ supervisors, who visit the fields to see if the soil is suitable and well prepared, to advise the farmers regarding time of harvest etc. It may even induce the growers to join their small tobacco plots into large fields, which will then be ploughed for them to enable the farmers to finish the planting within one or two days so that plants of the same age can be harvested.

We see from this description that, as indicated above, all systems aim at the advantage of large scale controlled production, to obtain a homogeneous product of good quality but that at the same time there is a tendency of monopoly, securing that all tobacco produced in a certain area comes into the drying installations of the firm which spent money in producing seedlings, ploughing, supervising or advising.

Classification of methods of production according to the position of the grower and the kind of product which is sold

Although different forms of production and marketing can exist next to each other and can change in the course of time, we will try to classify them, giving an example of each type and describing how it came into being.

- A The farmer cures his own tobacco. He sells it through his farmers-organisation or through an organisation of farmers and merchants to the manufacturers.
- B The farmer cures his tobacco and sells it on an auctionfloor, either personally or through his organisation.
- C The farmer cures his tobacco and sells it to private merchants or tobacco companies.
- D The farmer cures his tobacco and sells it to only one person or company to which he is bound by some form of contract or advance in money.
- E The farmer does not cure his tobacco but sells fresh harvested leaves or plants. He can choose between two or more buyers.
- F The farmer can only sell fresh harvested material to one person or company.
- G The farmer is not a real farmer but parttime labourer on an estate.

Case "A"

An example of the first type of marketing can be found in the Union of South Africa. In 1909 the Magaliesberg Cooperative Tobaccoplanters Society was created. To keep a uniform product an area was confined in which farmers could be members. Farmers who were already members but lived outside the boundaries of this area were allowed to stay, but their tobacco could not be sold under the name of Magaliesberg tobacco. When tobacco culture expanded, they became members of other cooperative groups. In 1925 a law

was applied which says: "If at least 75 percent of the growers of a certain crop produce at least 75 percent of it in a certain area and if they are organised in a farmers cooperative, the government may decree that all farmers in this area sell the product via this cooperative society."

Every grower now brings his tobacco in, graded according to prescribed norms and obtains directly 70 percent of the price which was announced at the beginning of the year. After the tobacco has been sold to the manufacturer the rest is paid out. This selling to the industry by the cooperative societies, is regulated by the Tobacco Industry Board, which consists of 13 members: eight representatives of the cooperative societies, one of farmers which are not members, one of the merchants, one of the large factories, one of the small ones and one officer of the Department of Agriculture. The board may give directions which are to the benefit of the whole tobacco industry, such as prohibition of selling of inferior quality, control of diseases, etc.

The fact that the special taste of South African Virginia makes it less suitable for export and the law which compels non organised farmers to sell through the existing cooperative societies, may be reasons why South Africa is nearly the only country where farmers have been able to keep marketing in their own hands. Their system does not cause problems worth mentioning: the farmers are paid according to quality and quantity, there is no exploitation of one group by another and the organisation helps to find the best agricultural practices.

Also in Canada one has come to an efficient method. Farmers and merchants were forced to see their communal interest and became organised in one body, as a consequence of the economic crisis of 1929. In 1934 the Ontario Flue-cured Tobacco Marketing Board was installed by the government. Selling tobacco outside this board was decreed unlawful. Therefore the board could regulate production and prices. After studying stocks and possibilities of export, it could determine which amount of tobacco could be planted most profitably in the coming year.

A juridical case has caused the dissolution of this board but another one was created by the farmers and merchants themselves and although not all, but still 90 percent of the tobacco growers are now members, the organisation can act as before. One may wonder how farmers and merchants can work so fraternally together, but they were forced by the economic crisis. They had asked help from the government, which could only be given when they were organised. Later on, having seen the advantage of it, they kept organised. A similar working together of farmers and merchants exists in Switzerland.

Case "B"

The history of how the tobacco auctions came into being in the U.S.A. is fascinating in itself and throws light on events which happened in later years elsewhere. In olden times, buyers travelled from farmer to farmer. One does not need much imagination to understand that there will have been good merchants and bad ones, the last spoiling the name of American tobacco on the European market. Already in 1712 a law was passed, regulating the erection of store houses and inspection of quality by government officials. This was the first beginning of tobacco markets and of standardizing the grading.

It is a long story from this beginning to the auction system, the standard grades, the announcement of the price obtained by each grade over the radio and the stern government control of all this, which is nowadays the rule in The States. The evolution has not gone in a straight line. The first data regarding organisation of farmers, to sell their tobacco cooperatively are from 1873. They built some store houses of their own and in the first years of enthusiasm, when the farmers preferred to endure hardship above selling the tobacco too greedily, this helped them to obtain better prices. But the buyers started to organise themselves into a big company, which obtained more and more power. Already soon this organisation was known as "The Tobacco Trust".

In 1901 there was practically only one buyer and the prices which the farmers could obtain became very low. Much publicity was given and the American Society of Equity helped the not yet organised farmers to form cooperative societies. These were, however, not slowly growing organisations of staid farmers, considering what is possible and what not but more fighting organisations, full of enthusiasm and hope of killing what was called "the big monster", the trust. The sentiments in those years can be found in an article of 1909 which describes the economic fight with the following words: "the farmer felt that he had a double advantage in his own patience and in the fact that the trust could not do without him; he was encouraged by the active and sympathetic support of merchants, bankers and the public in general, all in some degree his co-sufferers. And thus, in the years 1903 and 1904, organisations under a variety of names began to take form, all permeated with one idea, to control the planting, to restrict the acreage to reduce the supply and thus ultimately to enhance values alike for existing stocks and for crops as yet unsown. Membership was voluntary but before long the conviction grew general that non-membership would be dangerous."

Indeed, non-membership became dangerous; masked and armed farmers, known as the "night-riders" destroyed seedbeds and barns of whoever dared to plant tobacco. This was in 1908 when the most important farmers organisation held the harvests of 1906 and 1907 unsold in their warehouses. Partly by the solidarity of the farmers, partly by the activities of the night-riders the crop of 1908 was reduced to 10 percent of the normal area. The manufacturers ran out of stock and the trust had to capitulate.

Such a fight has happened only once. The farmers had won, but they had lost the sympathy of the general public because bad elements had more and more entered in the organisation of the night-riders. However, much attention had been drawn to the case and in 1910 the anti-trust law was applied and the tobacco trust split up in separate companies, of which the agents would bid against each other on the auction markets which had come into being in the mean time. The farmer can bring his tobacco there personally or through his cooperative society.

This was not exactly what the first organised farmers aimed at, but these organisations have taught them to grade their tobacco in the right way. This fact together with the help of the government has made possible a system of auctions, which comes near to an ideal situation.

Case "C"

An example of case "C", in which the farmer can sell his tobacco to one out of more private merchants, will be taken from India. Whereas in this country many types of tobacco are grown and are sold in different ways, flue-cured Virginia is the only tobacco important for export. In the Guntur area, north of Madras, the tobacco companies are buying only ready bales of cured and graded tobacco, which are brought to the buying stations of these companies. The system has not always been so; the British American Tobacco Company (B.A.T.), which introduced the growing of Virginia tobacco, started by producing seedlings for the farmers and teaching them how to grow the new type, of which the fresh harvested leaves were bought and cured by the company. Only in later years the farmers learned to master the art of curing.

Although in the mean time more companies had established buying stations in the area, most farmers continued to offer their tobacco for sale to the B.A.T. The Indian government, fearing that the company might abuse this situation or that price agreements would be made, tried to help the farmers by erecting a large auction building in 1942. In 1948, however, this building stood still unused because the tobacco companies refused to come and buy there. According to VENKATESWARLU (12) one has succeeded in starting an auction sale in 1951, but had to give it up again in 1954, since many farmers preferred to sell privately. One gets the impression that a similar fight is going on as happened years before in the U.S.A. Since the government is also active in standardizing the grades, one may expect that the evolution will lead in the end to normal auction selling.

In regions where the peasants are less developed and have only air-cured tobacco to offer for sale, there is much less chance that an open market will come into being.

Case "D"

Selling cured tobacco to only one person or company is much in evidence in underdeveloped countries. It is well known how local merchants can bind farmers by supplying them advances in goods or money, so that they are forced to deliver their agricultural products to these creditors.

Not only tobaccos for local use are assembled in this way but also some of them which are exported. The tobacco passes through many hands. A middleman in the village buys it from the peasant and sells it, more or less graded, to a bigger merchant, who ferments the tobacco and sorts it out into types, suitable for different markets. It is then baled again and sold to an exporting firm, who knows to which countries to sell the different types and qualities. Sometimes the last firm does the grading and fermenting or it controls the work of the merchant who supplies the tobacco. Often the money needed for giving advances comes from the exporting firm, so that a chain exists of persons bound to each other. An example of this system, showing how detrimental it can be to agriculture, will be given at the end of this chapter, in connection with the description of how one system can evolve out of an other one.

Not always is selling to one company connected with advances. It also occurs when the growing of a new type has been introduced by a certain

company, as long as no others start to deal in the same kind of tobacco. More common, under these circumstances, is selling of freshly harvested leaves, since the peasant will not know how to cure the new type.

Case "E"

Selling freshly harvested tobacco to more than one buyer, follows in the sequence of time, after a period of years in which the leaves have been sold to the initiator of a new type. Examples of it can be found in the following history of tobacco growing in Indonesia. This history also shows changing of systems in the course of time and gives examples of "F" and "G" whereas also case "D" appears in it.

Examples of D, E, F and G

Whereas tobacco had been grown in Java already for a long time, a new type, Havana, was introduced in 1836, because one saw that good profits were made with this type in the West-Indies by making cigar wrapper. In Java this tobacco was first used in the then existing system of forced cultivation and one will understand that growing such an exacting crop under such a system was not a great success. However, people had learned how to grow Havana tobacco and in stead of the forced system, free enterprises came into being. Tobacco merchants built large drying barns and bought the harvested plants (stalk-cutting was done) from the farmers.

Profits were made because an important part of the leaves was sold as wrapper, which could compete on the world market with other wrappers of that time. This form of tobacco production expanded rapidly in Java during about 20 years and then practically disappeared again, for two reasons. The first was that tobacco estates came into being in Sumatra and proved to give a much better quality. The second reason lies in an interesting phenomenon, which we will describe as "the history of the krosok".

First it must be mentioned that before the introduction of Havana seed, the Javanese had a type of tobacco, which produced very thick leaves, which were not dried as leaves but cut very fine after yellowing in heaps. This cut tobacco was then dried in the sun and after some fermentation, rolled in maize leaves, to be smoked. The plants of this type were always topped deep and the bottom leaves were thrown away. Also of the Havana the bottom leaves (krosok in the Malayan language) were not used in the beginning. But in the second half of the 19th century, smoking habits in Europe changed and a good demand for light but very cheap tobacco began. Some clever merchant then started to buy this krosok, which without costs could be dried on the walls of the small Javanese houses. At first the companies, which produced wrapper, did not mind; they went on buying the whole plant, except for some bottom leaves, and sold the ready product at a good price. But more and more leaves were missing from the lower part of the plant. The Javanese had learned how to dry them and a better class of krosok was bought by other people than the owners of the drying barns. After some years there were farmers who started to cure all their tobacco. The processing companies had to close many of their barns. Only those companies which produced tobacco on an estate or rented the land, could go on as before. The other firms did not

disappear at once and during many years there was a large export of krosok as well as of the product of the processing companies and estates indicated as "leaf". The prices and qualities of krosok and of leaf from certain regions became nearly the same.

But later on the keen competition of buyers made that every quality, even the worst one, was bought up. For the very poor tobacco a market was found in Spain and France, where the state monopolies looked for a low price. To obtain large quantities of tobacco, the buyers started to use the methods mentioned under "D". There was much activity of middle men and the farmers reacted to this by growing more tobacco but paying less attention to quality. At the end of the century, krosok had become a mass product without much quality.

The estates, on the other hand, had started to use scientific methods and better varieties, by which they succeeded in producing first quality and could stand better the competition of Sumatra tobacco. The difference between krosok and "leaf" and become very large again.

This part of the history shows how one form of marketing can change into another one. In the beginning, a farmer brought harvested plants to a drying shed of the processing company. Because of the nature of the product he was bound to one firm, unless a barn of an other buyer was built quite near the first one. When the farmer had learned to cure the krosok, he could transport this tobacco over a much larger distance and had a choice between several buyers. In the course of time, however, he became bound again, since he had accepted advances in money.

We also saw that firms who aimed at a product of high quality had to close down, unless they grew the tobacco themselves. Those who sought their profit in a large turnover and the difference between buying and selling price stayed on, but their influence on the care with which the tobacco was grow and on the welfare of the peasant was negative.

Similar events happened again in Indonesia in the following century, when the growing of cigarette tobacco was introduced. The B.A.T. set up a cigarette factory in Surabaya, using imported Virginia tobacco. In 1928 it started experiments to grow Virginia in the same region where about 1840 most of the forced tobacco culture had been and where afterwards much krosok was produced, the Bodjonegoro area. Soil and climate proved to be suitable and cooperation was sought with farmers to grow this new type. Then came the economic crisis of the thirties; the export of cigar tobacco (krosok and leaf), which had been difficult already because of the declining quality, became a serious problem. The government, knowing that more and more Virginia tobacco was imported and that at least part of the krosok could be used for blending, passed a law declaring that all cigarettes made in the country should contain a certain percentage of locally grown tobacco. This percentage would be fixed every year in a by-law and the aim was to raise it regularly. The B.A.T. reacted to this by expanding its culture of Virginia tobacco, to keep up the standard of its cigarette brands. Within a few years the growing expanded to thousands of hectares and in large parts of the Bodjonegoro area all cigar tobacco was replaced by Virginia. About 1935, however, other firms started to buy up fresh harvested Virginia leaves, some of them without having

made seedbeds to supply the farmers with seedlings. They bought the leaf of plants for which other companies had spent money to raise the seedlings. When the attention of the government had been drawn to this practice, a law was made allowing only holders of a permit to buy Virginia leaves. Such permits would be given only to those who made seedbeds. This counteracted the unlawful buying up, but it did not counteract the deterioration of quality, since the competing firms forced each other to accept badly harvested and badly treated leaves. When the leaves offered for sale became less and less uniform, flue-curing became a problem. The B.A.T. might have turned to other branches of its world concern, but it was bound by the law which prescribed a certain percentage of tobacco grown in Indonesia. It then proved to be possible to obtain Virginia tobacco from an other region. The estates in Central Java, which grew cigar tobacco, had also started trials with Virginia. Although the soils of Bodjonegoro could give a tobacco which came nearer to original American virginia, the B.A.T. preferred the certainty of a minor but usable product and made contracts with the estates to supply the needed material.

This is a striking example of how forms of landtenure and organisation rather than soil and climate determine the system of production. Leaves bought up from individual farmers had proved to be insufficiently homogeneous to cure them successfully, but the estates had everything in own hands and could fill their barns in the right way.

From the events in the 19th as well as in the 20th century we saw that a flourishing tobacco culture can stay when growing and curing is in one hand. If this is not the case, careful growing and harvesting remains only as long as the processing company has some hold on the growers.

One will be inclined to think that it would be better if there were competing buyers to ensure a good price to be paid to the farmers in stead of one firm, which has more or less a monopoly position. But in a region where fresh leaves are bought, the farmers are mostly primitive peasants, who are inclined to harvest unripe leaves. If one firm is strict on quality and bids different prices for different qualities but another one bids a medium price for the whole lot, the peasant will nearly always sell his tobacco to the last one. A primitive peasant will hate grading into seperate lots and the chance of a remark that this has not been done correctly. He will be influenced more by the attitude of the buyer than by the final price.

If there are more buyers they will force each other to be less strict and so they will have to accept overripe and unripe leaves or leaves that have been bruised or have wilted during transport. If this goes so far that curing brings financial losses with it, the companies will lower their prices; to this the peasant will react, not by harvesting more carefully but by growing more tobacco, since he has become accustomed to a certain income in money. A vicious circle of tobacco grown on less suitable soils, harvested with less care and still lower prices is the result.

On the other hand, it remains true that if there is only one buyer, he can abuse his position. One should, however, not be too afraid for this and specially not if the buyer is at the same time a manufacturer. Of the two activities of such a firm, producing raw tobacco and manufacturing cigarettes the

last one is very remunerative, whereas the first is often only undertaken in order to have a good supply of first quality tobacco. Such a firm, having built up an organisation to obtain tobacco, spending much money for building, implements and supervisors, will by paying good prices try to avoid the risk that others come and buy in the area where it has established a good tobacco culture. Moreover, to make primitive peasants grow tobacco in the right way, one has to overcome some resistance. To follow methods unknown until then and to work more carefully, the peasants have to be induced by comparatively high prices, at least during the first years.

If the above indicated "wild" competition starts and is not counteracted by governmental regulations such as assigning to each firm a certain region, the company which needs good qualities can react in two ways. It can try to obtain the tobacco from another place or country or if it is the most powerful of the buyers, e.g. a branch of an international concern, it can buy out the smaller merchants or better said, buys them in, which means that these merchants work under their own local name but are controlled by the big company. Then again, there are two possibilities: A good tobacco culture can be restored by advising and supervising the peasants, by paying high prices for good and carefully harvested tobacco and refusing inferior stuff, or the company can try to obtain the tobacco cheap, being sure of its monopoly position.

Alas, of these two possibilities mostly the last will be chosen, because to change the methods of smaller firms, of merchants and middlemen will be difficult. To build up a new organisation for improving the culture of tobacco would cost much and inasfar the company needs better qualities, these can be obtained from other countries.

In Mexico, where mostly air-cured tobacco is produced, the second possibility was chosen. The practices of merchants, money lenders and middlemen became standardized into a system by which the peasants became totally dependent on the company.

The farmer, having no other outlet for his tobacco, is willing to accept a contract according to which he will sell his future crop for a certain price. The contract or verbal agreement is not made with the company, but with a middle man who in his turn has a written contract with the company to supply a certain amount of tobacco.

The middle man, mostly a keeper of a shop in the village, has a strong hold on the farmers with whom he has an agreement. He sells them food and clothing on credit, being sure that he will get back his money in the form of tobacco. Moreover, the money which is mentioned in his contract with the company, is not received after delivery of the tobacco but paid out in instalments, during the growing season. The instalments have been figured out so, that he can supply the farmers with the cash, or the products of his shop, needed during the season. To be sure that the amount of tobacco for which he contracted will be produced, the middle man controls the work of the farmers and gives them money according to the amount of work done. It is a part of the payment for the tobacco to be supplied but one could nearly consider it as wages paid to the farmer for work done in his own field. Indeed, one can hear a middle man speak of himself as a tobacco planter,

which suggests that in his mind the farmers are his labourers. But the amounts of money earned are less than the wages of a real labourer.

Why then does the farmer go on to plant tobacco and to work so much for so small a reward? In the first place because he is a poor man and has no working capital. Also he is inclined to do what the middleman, mostly a powerful man in the village, tells him and moreover he is nearly always in his debt. An other factor may be this: in some regions the farmer is allowed to plant maize between his rows of tobacco. If last years maize crop was not sufficient to feed his family until the new harvest, the farmer would not be able to prepare a new field for he has to eat while doing this. If nobody helped him, he would have to leave his village and seek work at a large distance, but now there is the merchant, being so kind as to give him money for each part of the field which is ready. He has to plant tobacco there but the rows are wide apart and the field is nicely clean so that his maize will grow well. Some years he gets a little money after delivering of his tobacco, other years "his wages" were more than the price of the tobacco. But in any case, he could eat.

One will understand that with this method of production there is not much scope for improving agriculture. Where other crops could be introduced which gave more profit than tobacco, the growing of this plant disappeared. This did not affect the tobacco company much. It could start the system in some other area of Mexico, for there are many places where tobacco can be grown when quality is not so important.

MEANS TO IMPROVE CULTIVATION AND MARKETING, IN UNDERDEVELOPED REGIONS

Of the different methods of marketing, described in the foregoing chapter, the first two are found in advanced countries and the others, including the estates, in more or less underdeveloped regions. It will not be easy to introduce one of the two first systems in countries where a large difference exists between the standard of living and erudition of buyers and growers and where, as is often the case, the buyer belongs to a quite different group of the population or even to another race. Another solution will then have to be sought.

Restriction of competition

In the series of forms of production which runs from estates to merchants we have seen a desire to apply the perfect methods of the estate, but also the difficulty of doing this. Because tobacco needs so much handlabour it mostly is grown on small farms, where the whole family helps during the busy days of planting and of harvesting. This fact can easily lead to exploitation of these persons if the buyer has a monopoly position and it can lead to deterioration of quality and bad growing practices, if there is unrestricted competition of the buyers.

In the beginning of this century the government of Indonesia tried to counteract competition between companies in East-Java, by assigning to each of them a certain area in which they were allowed, either to rent land from the peasants or to buy all fresh harvested tobacco from farmers who grew tobacco on their own account. Of course, safeguards had then to be made to

protect the farmers, such as fixed prices according to quality, to be announced before the season and indemnification to the farmers in case of failure of the crop by unavoidable circumstances. Although the measures taken have resulted in the fact that the tobacco from that part of the country did not deteriorate as in other regions and is still a wellknown product on the international market, there has been much opposition. One can easily understand that a government, taking such steps, will be accused of protection of certain firms. Especially if it concerns foreign companies, a government has to be careful in taking measures like these.

Development schemes as starting point

But nowadays there are other possibilities. In several countries development schemes exist which aim at modernising peasant agriculture. The work has often begun through demonstration farms, which used improved methods. It was hoped that these would be followed by farmers living around but very often this was not the case. To influence more farmers one organised them in groups, bound to follow certain rules. Well-known examples of such organisations are the "paysannats" in the Belgian Congo and in the French overseas territories. DE WILDE (13) gives the following definition of paysannats: "rural communities subject to their own customary law or modernised forms of it, consisting of families who have allowed themselves to be settled in a specially selected part of their tribal landed property, or on land belonging to the state, with the object of living there permanently and working for their own account on holdings allocated to them as individuals or collectively; obliged to follow crop-rotation programmes and agricultural methods, dictated by the state and assisted by government money to make them paying propositions; backed economically by a cooperative organisation and socially endowed with educational establishments, health service and welfare facilities."

Also organisations exist which have been made to counteract the bad influence of price fluctuations. These organisations have sometimes started in connection with development plans, such as "Office du Niger" or originated during the years of the economic crisis after 1929 such as the "Cacao Board" in Ghana and the "Copra fund" in Indonesia.

There is now also the example of the Gezira scheme in the Sudan, which combines the coordination of the interests of farmers and merchants with the advantages of large scale, scientifically guided production. The land in the Gezira is kept in hands by the Government, which paid for the irrigation works which made the Gezira into an important producer of cotton. Absentee landlords can therefore not make profit by raising the rent according to improvements which have been made, leaving the tenant poor and not able to ameliorate his methods of farming. A managing body takes the place of the merchants or processing companies, collecting, ginning and selling all the cotton grown in the area. The main principle of the scheme is that a fixed percentage of the nett profit goes to the tenants, another percentage to the managing body and a third part to the government. The managing body cannot abuse its monopoly position by paying low prices to the farmers, because of the fact that a fixed percentage of the profit has to go to them. Still cotton is bought up in the usual way, which means that each farmer receives a price

according to quality and quantity of his cotton. At the end of the year, when the profit is known, each of them receives a certain percentage of the first payment in addition. This is a normal incentive for the farmer to do his best but also the body which does the ginning and selling, has reasons to work hard. Not only efficient ginning, economic transport and good marketing help to raise the net profit but also larger quantities and better qualities. It therefore helps the farmers by organising the control of plant diseases, by preparing new fields with modern equipment etc.

Before the managing of the scheme was laid in the hands of a board, a private company did this work. The main principle of the scheme holds true under these conditions as well, since also this private company paid a fixed percentage of the profit to the farmers.

Link between development scheme and private enterprise

If in a new scheme, crops as tobacco of which the production and selling requires much technical skill are included, it will be good to have the co-operation of a private firm with its staff of experienced persons. In the Papaloapan area of Mexico, where peasants had to be moved out of the mountains to the plain, it was extremely difficult to get these people accustomed to the new environment, where they had to grow crops of which the marketing was insufficiently organised. If they had been able to grow a cash crop in co-operation and under the guidance of an experienced firm, they would have become good farmers in the same way as the former nomads in the Gezira became settled, as described by VAN DER KOLFF (9).

Where a certain type of agriculture exists already and is improving through organisations as paysannats and groupfarms, a useful role can also be played by a private firm if it takes on the processing and selling of such commodities as are difficult for a development body to deal with. As a matter of fact, such a firm will not have the same liberties as commercial firms are accustomed to, since its books must be open to the development body or government, to ensure that the farmers obtain the fixed percentage of the profit.

Also the other way round a solution can be found. If a tobacco company wishes to start activities a certain area, the government can allow it to be the only buyer on the condition that a fixed percentage of the profit will go to the farmers. To make an agreement only on prices to be paid to the farmers, will not be sufficient, because for a product as tobacco different prices have to be paid for different qualities and it is impossible to fix these qualities objectively.

If the company which manages the production of tobacco as part of a development scheme, is only a processing company and sells the tobacco in the open market, it will be easy to assess the total profit. If the company is also manufacturing cigarettes and uses other tobaccos along with the locally produced material, the government will need a customs officer with enough knowledge of the tobacco trade to evaluate those tobaccos.

To a foreign company in particular, it may be advisable to work under conditions as proposed above. If it does the same work as a development body,

actively engaging itself in the improvement of peasant agriculture, it will create goodwill and be able to work for many years, whereas if working as a totally free enterprise, it may be looked at with suspicion and suffer all kinds of obstructions.

An illustration can be taken from the Sudan. In this country until recently no commercial growing of tobacco existed. In 1950 a coffee planter made experiments with Virginia tobacco on his estate. When these were successful he proceeded to produce tobacco by supplying peasants with seedlings and buying fresh harvested leaves. Very soon he started a cigarette factory. The B.A.T. which had a branch for importing cigarettes in this country, then explored the field and having found another region, suitable for growing tobacco, started to work in a similar way. This company made an agreement with the Ministry of Commerce, which reads that the B.A.T. would directly build a cigarette factory but be allowed to import duty free tobacco for a period of five years. The amounts would be smaller every successive year and be completed with locally grow tobacco. One could not expect to be able to produce a sufficient quantity and quality in a shorter time.

Production proved indeed not to be easy. The peasants in the relevant area had still to learn every detail of tobacco growing. The B.A.T. made use of experience obtained in other countries and induced the farmers to lay their little plots together into big fields, which would then be ploughed by the company and planted according to its advice. Because of lack of cooperation this succeeded only partly and also other difficulties were met with. The company had announced beforehand the prices which would be paid for fresh leaf, of which three qualities would be accepted. When later on unripe or badly treated leaves were refused, the peasants sent complaints to local officials. Also the rumour was spread that the company would pay first quality as if it were second.

The Ministry of Agriculture then started groupfarms, in the first place to teach the right way of harvesting and handling tobacco leaves, but also to demonstrate the advantage of large homogeneous fields and good rotation. By this ministry cooperation was not sought with the buying firms. Flue-curing barns were built at the cost of the government, fields cleaned and officials appointed to teach growing and curing. The B.A.T. from its side did not seek concerted action. The manager had some fear that organised farmers would be more exacting.

A better understanding from both sides would have resulted in improved cultivation and curing. One of the two groupfarms was a success as regards a homogeneous field, good harvesting and good curing, but the government had no facilities for grading and storing; it had to offer the tobacco for sale to the two existing buyers. Moreover, it could not go on to build flue-curing barns and organise all growers in groups, unless it intended to take the whole production process in its own hands, as was done in a country like France where the state has a tobacco-monopoly and where one started to regulate the cultivation, in a time when growing and curing were still rather simple.

Cooperation with governments or with development boards can have positive results for private companies, if they do not look in the first place for profit in a short time, but establish a system of peasant-agriculture which

will give them a supply of good quality during many years. FOURASTIE (7) explains how business firms have largely changed their behaviour, but in under-developed countries oldfashioned methods still prevail too much.

Other ways to improve marketing and cultivation

When farmers work with a processing company which pays them a certain percentage of the profit, they will not be the independant farmers who have their own choice of what to grow or where to sell it, but they are much better off than the poor man who is bound to a merchant by advances in money or goods and forced to grow a crop which he must deliver to his creditor.

There may be circumstances under which one can seek a development in the direction of free farmers. If in a country tobacco is cured by the farmers and sold to independent merchants, who all work with middlemen and advances, one can use a system, known as Supervised Agricultural Credit. In some countries it is called training credit since it is characterised by its educational and social purpose. It differs much from ordinary banking credit because the securities for the loans are not properties but the character of the borrowers, who will be selected carefully. The initial capital has to come from the government or from an organisation which aims at improvement in a certain region. Supervised credit can be considered as one of the means of agricultural extension work and the body which manages the credit has to work in close cooperation with the extension service and other organisations which are connected with rural welfare.

In a F.A.O. publication BROSSARD (6) gives a full description of the system and of the setting up of an organisation by which it can work. The supervising body and its staff should have a good knowledge of local circumstances and agriculture; they must start the work in a small area, preferably knowing each of the farmers. The supervisors must know enough of farming to be able to say how much credit is needed for the production of a certain crop and they have to control the work of the farmer, just as a money lending middleman does.

But when the tobacco has been collected, it must be sold to a manufacturer or be exported. The credit organisation will mostly not have the means or the knowledge to do this. Here again one needs the technical help of a tobacco company.

It is possible that the same merchant who was accustomed to buy through middlemen, is willing to accept the tobacco from the group of farmers who received supervised credit and pay them the money which he paid formerly to the middle-man. It may also be that he is afraid to loose his grip on the peasants and boycotts all those who made use of the new form of credit. It is therefore important for the organisation to have contact with a good willing, competent merchant. This man may even be useful in the first years to make sure that the credit organisation obtains back the loans. When, however, the farmers have felt the advantage of being rid of the middle-man, when agricultural improvements have been successful and the relations with the personnel of the organisation are good, it will seldom be difficult to get repayment of loans.

If everything goes well, the group of farmers may form a saving society

and later on cooperative credit may take the place of supervised credit. But it will depend much on circumstances if ultimately the farmers will make a producing cooperative with its own store houses and will be able to bargain with different merchants. Perhaps one will have to fall back to the fore-mentioned system, by which the farmers cooperate with one firm only.

If there are local leaders under the growers who endeavour to make long journeys to visit different firms, showing them the tobacco samples of all growers of the village, as happened in one village in Mexico, one could have had hope that a solid farmers organisation would come forth, but it turned out that nearly all merchants were bound to one company and could not bid competing prices. There proved to be only one independent merchant who was trying to find a new market abroad. If this person, who was willing to participate in the educational work, had owned enough working capital, the three parties, farmers, merchant and creditorganisation could perhaps have found a way to become free of the big company and its middle-men.

The role which tobacco can play when shifting cultivation has to be changed in settled farming

In the foregoing mention has been made of paysannats and groupfarms. Such organisations are important in areas where shifting cultivation is not any more able to support an increased population. Tobacco is sometimes grown on a limited scale in such areas, to be sold for use in the neighbourhood only. If not enough land is available anymore for bush-fallow, the farmer has to come back too often on the same fields. The yields of all crops become less but the quality of his tobacco may improve, as explained in the first chapter.

Then the time has come to help the peasants to become settled farmers. Tobacco, being the only cashcrop known, can be of good use. When it becomes a real commercial product, the necessity to grow it in regular, clean fields, will help to grow also the other crops in a more modern way. This will make possible the use of tillage implements so that the farmer can grow more crops with less work.

A very difficult problem is to keep the soil fertile and in good condition. This will have to be done by covercrops, greenmanure and a good rotation. Especially when tobacco is one of the crops and the land is sloping, measures have to be taken against erosion.

When agricultural research has proved that the soil of the area makes settled farming possible, much work will still have to be done to guide the peasants. To make them to individual farmers will be difficult. It may be good to seek the solution in a kind of communal farm or better in an organisation by which peasants follow certain rules but stay responsible each for his own plots and crops.

The form of landtenure is important, but if one would give a person accustomed to a kind of nomadic life, the right of ownership of a piece of land and further let him alone he would, after cultivating this for a few years, still go miles into the bush, to look for a fresh plot. Or he may not live as a nomad, but in a village, cultivating far out-lying fields to which nothing binds him but the crop which is there in a certain year. Such a man will be attached very much to the customs of the village and will only undertake

something new if also the other inhabitants do it. When fresh plots become really scarce the village can react favourably to measures taken by the government or by a development organisation. If an area is cleared of bush or some land has been reclaimed, a group of peasants can be induced to grow there their crops according to certain rules and under the guidance of an agriculturist. When the land is divided in large fields, intended for one crop, and each field in smaller parcels, to be given out to each of the members of the group, one can plough each field at the proper time and come to a good system of rotation.

That tobacco can play an important role in such a scheme, is not only because it needs large, regular fields for the reasons explained in the first chapter, and because it brings in money which is needed when innovations take place, but also because it requires much handlabour.

If the heavy work such as tillage is done with machines for the peasants who are now free of cutting and clearing bushland every year, they will scarcely become farmers if only crops are grown such as maize, which do not ask much additional work. The following illustrates this :

When in September 1955 the Northern part of British Honduras, where shifting cultivation is rule, was hit by a hurricane and nearly all maize on which the people had to live during the coming dry season had been lost, money came available to help the country. Since it was thought better to enable the peasants to help themselves instead of giving them rations of imported food until far in the next season, the government sent bulldozers to clear large tracts of land near each village. There would be just enough time to grow a crop of beans before the dry season, if the land could be made ready in a short time, which could not be if the peasants had to do this with their own means. The Department of Agriculture, wishing to use the opportunity to improve agricultural methods for the future, tried to keep these fields also for coming years.

It could however only be done with two fields, because of lack of funds and persons for supervision. The success of these two experiments in settled farming was somewhat reduced by the totally cooperative or collective set-up. Instead of dividing the large fields into small parcels, to be allotted to each of the villagers, a group of volunteers was selected and this group did all work such as planting and harvesting, as a group.

The yield was divided between the members according to the number of hours which each of them worked. Since in this country people live in villages of which the inhabitants are closely related, this system worked to a certain extent. But things had been made a little too easy for the peasants. Ploughing and discing was done for them by machines and since maize was the main crop, the peasants, free from the toilsome work of clearing new land, had much time left. Some of them went hunting and others still cleared bush to have a plot of their own. This caused mistrust and was not favourable for consolidation of the group. Also the standard of living did not improve much, as would have been the case if next to maize cash crops had been grown, which need much handlabour and bring in much money.

In the same country also a method has been tried to come to settled farming in a more gradual manner and with more active participation of the pea-

sants. Near one of the villages existed experimental fields for Virginia tobacco and flue-curing barns. After the inhabitants of this village had obtained experience by working as labourers in these fields, a plot of land near the experimental station was made available to a group of selected workers, to plant tobacco, of which the fresh harvested leaves could be sold to the government and would be cured in the existing barns. The difference in price between well-harvested ripe leaves and leaves of minor quality was made on purpose rather large. This resulted in the fact that the farmers, who worked on their own account, brought in very homogeneous lots of tobacco. The labourers, in the experimental fields, although working under close supervision, did not show such good harvesting as the farmers who had as incentive the difference in price between good and bad leaves.

The aim of this scheme was to educate the peasants in a similar way also regarding their other crops and to give them step by step, more responsibility in the minding of their own affairs, as a group, but also as individuals. It was remarkable how well they learned from each-other when their plots were in the same field.

Planting and harvesting of a graincrop can be done and often is done by a group or a whole village, but a crop like tobacco can better be left to the responsibility of each of the members. This does not of course mean that each should follow his own methods, but he should follow certain rules which in future can be made by the group itself.

Again it will depend on local circumstances, such as the stage of development of the farmers, their character and keenness and also of the attitude of the buyer or buyers, if this group will ultimately own a tractor, tobacco stores etc., and grow out to a society of individual farmers, who decide through their organisation, where to sell their product, or if it will be better to form, together with a company a production unity in which the interests of both parties are coordinated.

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