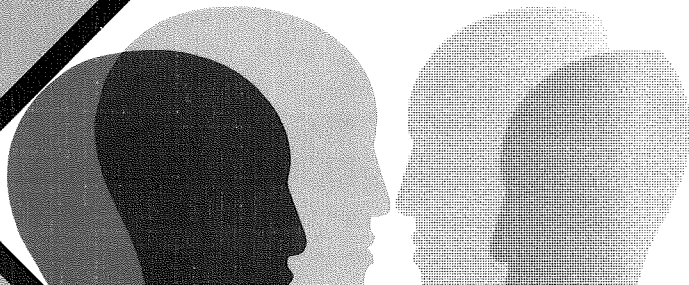
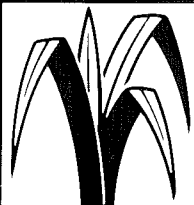


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*Agricultural Extension  
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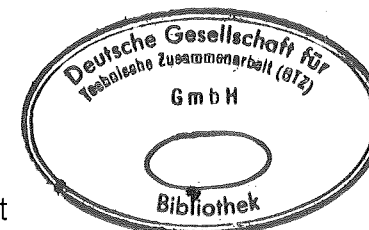
# Rural Development Series

## Agricultural Extension

Volume 2

Examples and  
Background Material

Hartmut Albrecht, Herbert Bergmann, Georg Diederich,  
Eberhard Großer, Volker Hoffmann, Peter Keller,  
Gerhard Payr, Rolf Sülzer



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## Case studies of approaches to extension

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## Case studies of approaches to extension

## Production technology approach: "Opération Riz" in Madagascar

"Opération Riz", a rice cropping programme, was started in Madagascar in 1966. The agricultural potential of the highlands of Madagascar meant that it was possible to raise rice production above current levels, but it would require the introduction of new production techniques like plant raising, row cultivation, weeding and irrigation.

Since it was beyond the powers of the state extension service, the supervision of 158 000 farms with 111 100 ha cropped with rice (an average of 0.71 ha/farm) was transferred to an **autonomous body** – the "Groupement Opération Productivité Rizicole" (GOPR). The management personnel were supplied by three European firms (1966 = 34 people). At province level the staff consisted of a director and specialists with responsibility for cultivation, irrigation, the provision of the means of production, credit and training advisers. At district level the staff consisted of an agronomist and experts in extension, credit and production inputs. Finally, at the community level there was a "head of sector", who was responsible for supplies, working together with 5 – 7 advisers (encadreurs). Each adviser supervised a "cell" (a pre-cooperative) of approximately 250 farms. There was a staff of 601 when the campaign began in 1966, and by 1969/70 as many as 1 027 people were employed.

GOPR was financed via the government of Madagascar by the European Community.

The running and control of the project were in the hands of the French SATEC (Société d'Aide Technique et de Coopération) which is roughly equivalent to GTZ.

GOPR laid down **explicit outline conditions**:

- (1) independence of financial regulations of the administration
- (2) commercial transactions at its own discretion
- (3) autonomy in staffing matters

When the mass campaigns were carried out, they were specifically restricted to a limited package of innovations.

The functions of the management were carefully organised to integrate the advisers fully into the work of the project. The main objectives were that:

- the farmers should be shown the direction to follow, but not compelled – they had to be convinced of the advantages of an innovation;
- every project worker should be **personally responsible** for his area of operations;
- every field adviser has **operational targets** for the year and should be involved in drawing them up;
- the work of the field advisers should be closely **supervised**;
- the field advisers should be given **continuing further training**.

To put these objectives into practice in extension work, a plan of operations was worked out with alternating training and practical work:

- (1) The field advisers were given a **short induction course**.
- (2) Every fortnight the field advisers were brought together by the "chef de secteur" for a **two-day training course**.
- (3) "Chefs de secteur" were themselves given training at somewhat longer intervals by the "chefs de zone".
- (4) During this in-service training the field advisers learned how to set themselves **operational targets**, e. g. working out the number of farmers to be supervised, the number of improved seed beds needed and precise **work schedules**.
- (5) After these **schedules** had been discussed with their superiors, they became mandatory for field advisers.
- (6) The work of field advisers and the "chefs de secteur" was **checked regularly**, because senior staff were able to establish with the help of the work schedules where an adviser was supposed to be working and what he was supposed to be doing.

The clear advantage of this type of organisation was that field advisers were set realistic objectives. There are many obvious parallels with the "Training and Visit System" (→ A 9).

GOPR's endeavour to find solutions was based on a management philosophy that believed efficiency would be increased by **clearly defining targets**, by **continuous supervision** and **involving project workers** in the allocation of duties.

From the viewpoint of extension, the work of GOPR's advisers at village level is given coherence by the following factors:

- GOPR began its extension work by building up "cells" or cooperatives and concentrating on a limited range of crops. The cooperatives were then used to introduce innovations, to distribute production inputs to the members and to allocate credit (checking creditworthiness is thereby made easier).
- The network of extension services was grouped round the local adviser who was responsible for any measures that had to be taken – from working in the fields to recruiting cooperatives after the harvest.
- In his work the local adviser concentrated on the members of the cooperatives.
- The objectives were clearly defined: increasing production, extending the land under cultivation and raising the yield per unit of area.
- The local advisers were well paid and were provided with adequate technical know-how and materials.
- SATEC produced brochures, detailed visual materials, etc., specifically for field advisers, giving for example practical instructions and illustrations: "How do you demonstrate sowing along a line?"
- Each adviser was responsible for several villages (up to 20) and was therefore less likely to be drawn into conflict situations in any one village.
- They focussed their activities on individual farmers and they did not therefore interfere in existing power structures.

The **extension method** itself was devised by a psychologist (C. MAGUERZ) and was successfully tested by SATEC. It was based on detailed material for training advisers (manual de moniteur) and instruction sheets for the advisers themselves (fiche de vulgarisation) that contained all the necessary information for different stages of the cropping calendar.

The rapid success of the project is summarised in → Table 1. But in the early 1970s the price of rice fell and the package was no longer attractive. Moreover, yields declined as a result of poor weather conditions. Despite the fact that women play an important role in society in Madagascar, the extension programme did not specifically address them until 1970. They take charge of money and are responsible for food production in rainfed farming and husbandry in irrigated rice cultivation. But as long as the project's financial attraction was guaranteed, they did nevertheless become involved in the programme, particularly as it incidentally

Table 1:

Performance of GOPR 1966 – 1971			
	1966 – 67	1968 – 69	1970 – 71
Farms reached	28 000	130 000	169 000
Improved cropping land in ha	4 500	45 000	86 000 <sup>1)</sup>
Average land per farm in ha	0.16	0.35	0.50
Increased yields in t	7 000 <sup>2)</sup>	83 000	121 000 <sup>3)</sup>
Average yields in t/ha	1.55	1.85	1.41
1) approx. 9.1% of the total land cropped with rice 2) approx. 0.4% of total production 3) approx. 6.5% of total production			

relieved their burden: for example, by involving men in transporting mineral fertiliser to the fields and working with rotary hoes.

“Opération Riz” can be regarded as a typical example of an extension-oriented aid initiative that concentrated on production technology.

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#### Compiled by:

Rolf SÜLZER, Gerhard PAYR

## Improvement of farming systems: The “Ladder of Progress” Approach in Salima, Lakeside Region, Malawi

Since 1966 an integrated project combining agricultural extension and training, credit, marketing, infrastructure, land development, experimentation and village centres to train craftsmen has been carried out in the region bordering Lake Malawi (approximately 3 600 km<sup>2</sup>, with about 32 000 farms and an average of 5 persons per farm). While the project was being established, it concentrated exclusively on promoting cotton cropping and began to build up information on crop rotation systems.

Because of the limited success of these measures, a new approach was introduced that encompassed extension work in food cropping, animal production and rice cultivation. Six categories of farm (→ Figure 1) were created using a combination of area, crops, degree of market integration and the existence of farm planning, so that extension could be programmed and appropriate packages of innovations devised.

The extension approach was based on a step-by-step mobilisation effect, called the “ladder of progress”. Farmers were to be advised in such a way that they would develop, with the help of the project’s package of innovations, from subsistence farming to being fully integrated in the market. The organisational core of the project was therefore extension. Tightly organised extension work would create the mobilisation effect, and the concept of selective aid and extension was formulated in the hope that innovations would spread autonomously:

- The adviser density was too low to provide the approximately 30 000 families with individual extension. Moreover, the poor level of training of the advisers restricted the use of group and mass extension work.
- The population was first divided into six categories according to willingness to adopt the innovations offered. The lowest was category I, comprising the subsistence farms, while the most progressive farms with farm planning, rotations and integrated livestock keeping were in category VI. The higher the category, the greater the number and complexity of innovations on offer, and the intensity of extension was correspondingly increased. While categories V and VI were given intensive individual extension, the other groups were supposed to be reached principally by group and mass extension (→ Figure 1).

Figure 1:

Farm categories and the Development Measures available						
Category	I	II	III	IV	V	VI
Type of farm	Subsistence and part-time farmers	Cash-crop farmer at low level	Improved cash-crop farmer	Progressive cash-crop farmer	Farmer with farm planning	Farmer with farm planning and cattle keeping
Farm system	Local maize, groundnuts, rice, some cotton with - out pest control	Local maize + Mani Pintar or local maize + cotton or improved rice cropping.	Fertilised maize + cotton, or fertilised rice	Fertilised maize + cotton + Mani Pintar or fertilised rice + water control in groups	Rotation of maize + cotton + groundnuts	As category V + pasturing
Extension	Group and mass extension (field days, demonstrations, meetings, film shows, campaigns, etc.)	Individual advice on tilling, recognition and control of pests, otherwise group extension	As category II + advice on fertilising + advice on storage	As category III + preparation for farm planning in farm institute	Continuing individual advice on management questions, special seminars	As category V + special advice on animal keeping
Credit	No right to credit	Insecticides, back sprays, Mani Pintar seed	As category II + maize seed and fertiliser for 1 acre	As category III but for 1.5 acres of maize on request	All production inputs according to area, after 2 successful years also draught oxen and equipment	As category V + livestock breeding

- After one year all farmers who showed improvement were given the opportunity of going up into the next category, which would automatically give them the right to more aid (ladder of progress). The aim of the development endeavours was to get the majority of farmers into category VI.
- This development concept aimed deliberately to create inequalities. It was hoped that the more backward farmers would be stimulated to greater efforts by the example of the more progressive farmers. Thus envy was to be converted into the desire for progress. Equality of opportunity was therefore guaranteed, since all farmers had, as a matter of principle, the chance to rise to a higher category.

This unbalanced spread of extension work led automatically to concentration on the small group of farmers in the highest category. Farm planning was carried out in only about 260 holdings, but in the lowest category there were some 16 000 subsistence farms. However, the anticipated demonstration effect of the small number of very advanced farms did not materialise because of:

- the high difference between the cash resources of the farms;
- the fact that almost a third of the farms in the lowest category were run by women;
- incomes derived from the non-agricultural sector (migrant labour, fishing, basket weaving, etc.);
- being completely integrated in the traditional social structure.

Contrary to expectation, there was no transfer from one category to another in the first three years of the project. The proportion of farmers in category II only rose from 2.5% to 18.5% and the combined share of categories III, IV and VI amounted to only 2.2%. An analysis of the reasons why selective development measures had failed revealed that the intensity of extension was extremely unbalanced:

Table 1:

Intensity of extension in each category of farm		
Category	Number of farmers	Hours of extension per farmer per year (1973)
I	22 082	0.48
II	5 858	1.39
III/IV	2 158	2.26
V/VI	182	28.30

- The six categories were shown to be a purely arbitrary division of the target population. The socio-economic analysis showed the existence of only three homogeneous target groups: subsistence and part-time farmers, cash-crop farmers with hoe cultivation and a small number of larger-scale farmers with draught oxen and livestock husbandry.
- There was a tendency for the advisers to counsel the most progressive farmers more intensively, because they were the first to adopt innovations or request advice spontaneously.
- Most progressive farmers live and work without reference to other people, and in practice therefore they can only be reached by individual extension. Advising privileged farmers on an individual basis can be to the personal advantage of the adviser (status, connections, presents).
- These farmers could not possibly be effective as a model for the poorer farmers because the factor provision of traditional hoe farmers prevented

them adopting innovations in the same way. Moreover, sanctions imposed by neighbours curtailed the efforts of particularly ambitious hoe farmers (demands made by relatives, arson, the threat of witchcraft, etc.).

- It proved impossible to explain the neatly devised but complicated system of categories to both farmers and advisers and therefore to convince them of its usefulness. **Recording and keeping** a check on which farmers belonged to particular **categories** also created high administrative costs.
- The **inadequate training** of advisers was a basic reason why group and mass extension methods were not used often enough.
- Another reason was the **poor programming** of extension work. The measures and the target groups were indeed defined in great detail, but the method of implementation was left largely to the advisers themselves.

Success was not forthcoming until, as a result of continuous evaluation, the aid and extension measures were directed at the three target groups that actually existed, the ladder of progress was reduced to two steps, group and mass extension were given priority, the target groups were involved much more in the planning and implementation of measures by creating village committees, and the focus of development aid was shifted from progressive farmers to the mass of hoe cultivation holdings.

In the second phase of the project, concentration on individual extension was abandoned in favour of **participatory group extension work**. This method involved the creation of about 500 **village committees** (→ D 4) onto which up to 14 people were voted by the villagers (heads of extended families, representatives of the women's league, business people). These village committees acted as a platform for extension, but were also intended to be a channel of communication for the population in turn to voice its aims (flow of information upwards and downwards). The village committee met once a month. Proposals and criticisms were then passed on to the project's committees by the advisers – for example at weekly meetings of advisers to programme work for the week ahead or at monthly meetings at project or regional level.

Consistent application of this two-way flow of information was accompanied by frequent contact between advisers and farmer (2 400 single visits per adviser annually plus demonstrations).

The adaptation of the ladder of progress to the level of ability of the subgroups and the provision of specific innovations relevant to subsistence and cash crops improved the efficiency of the advisers and the response of the population as well.

By 1977, when the project was handed over, more than 80% of the farms had been brought into the development programme.

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#### Compiled by:

Gerhard PAYR, Rolf SÜLZER

## Socio-economic development approach: "Community Development" in India

The hypothesis underlying the integrated Community Development approach is that the development of society as whole benefits from the development of its many small constituent parts and that the economic and social conditions in a nation can only be improved by the concerted efforts of individuals and all public institutions (including communities).

The basic assumptions are that:

- the activities must be **voluntary** – they must give expression to the will and needs of the community;
- the activities must be “ **concerted campaigns**” embracing all sectors of society;
- the members of the community should be given the opportunity to **participate in** and eventually to administer **planning and implementation**;
- the local “leaders” and people of influence should be **trained** during the course of the programme.

Two successful projects related to the work of GHANDI and TAGORE led to the rapid development of CD in India and to the state becoming the official sponsor.

The “Firka Development Scheme” (FDS) was established in Madras in 1946. A “Firka” is a unit of area for taxation purposes (about half the size of the present-day “Blocks”, with approximately 150 000 inhabitants). The 34 FDSs practised the principles of GHANDI: they operated on the basis of cooperation and self-sufficiency, in other words independently of external relations. At village level Gram Savaks (male or female servants of the village) were responsible for the programme. They gave priority to measures to promote cropping and self-administration, receiving the necessary support from the Firka Development Officer who had a staff of specialists at his disposal. Thus evolved the basic formula but also the inherent dilemma of CD: a multipurpose village level worker, relying on back-up by specialists, was intended to coordinate a rural development programme.

The American town planner, Albert MAYER, developed and organised the parallel pilot project “Etawah” District (Uttar Pradesh). When this project was mounted in 1946 the Gram Savak (later to be called village level worker, VLW) again played the key role, because MAYER had observed that the existing services provided by the ministries had no contact with the village population and failed to work together

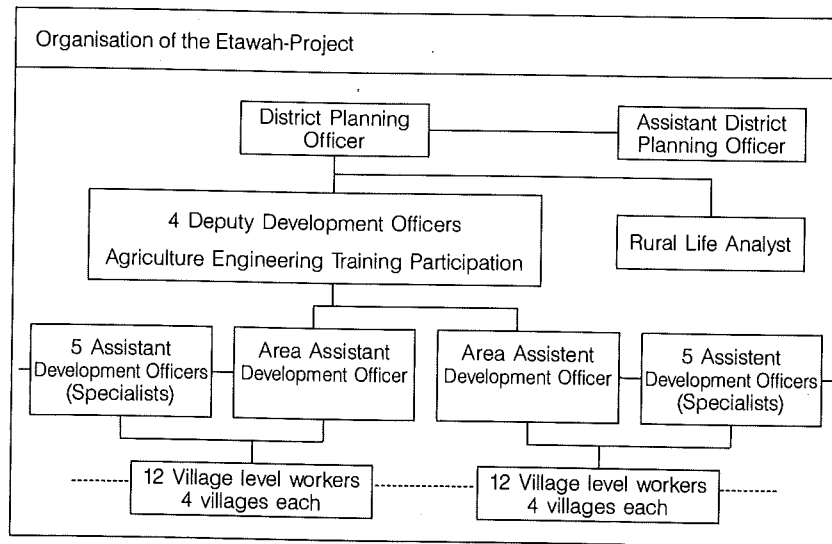


where cooperation was vitally necessary. Thus fragmentation in specialist departments triumphed over the problem-oriented approach.

From the very beginning it was clear to all concerned that the technical efficiency of the VLWs would be low. The intention was, however, to raise the level of their expertise and self-confidence by means of coordination and assistance. The work of the advisers was to be made easier by bringing them together for regular discussions, personal supervision by subject matter specialists and concentration on a limited number of important tasks.

The formal organisation of CD in the Etawah Project was as follows:

Figure 1:



The basic ideas in the two projects were taken up by the commission that drew up the first 5-year plan:

“Community Development is the method and the National Extension Service the institution by means of which the 5-year plan seeks to set in motion a process of reform of the social and economic life of people in villages.” (KANTOWSKI, 1970, p. 9).

The programme began in 1952. It was welcomed with enthusiasm and achieved rapid success. In October 1953 there were 220 Blocks and in 1965 the number had risen to 5 238. (Each federal state in India is divided into a total of 320 Districts, each of which consists of about 10 – 20 Blocks. These are the basic geographical units and each has approximately 100 villages with an average of 60 – 70 000 inhabitants, although this figure can be as high as 150 000.

It soon became apparent that in practice the village advisers could not have the same enthusiasm as their superiors. Precisely because the programme spread so quickly, the VLWs received inadequate preparation for their duties, whereas today they are given a thorough two-year training. They soon saw themselves pulled in opposite directions: on the one side there were the demands of the national plans and supervision by BDOs (Block Development Officers), with inadequate back-up by the subject matter specialists (about 1 SMS for 100 villages) – and on the other side the people in the villages made very specific demands of the Gram Savak or Gram Savika.

Because the setting up phase was so rapid and involved so many activities, agricultural production showed scarcely any increase at the end of the first 5-year period. Moreover, the VLWs were not in a position to encourage cooperation in the villages, since they tended to respond more to the wishes of land-owning farmers.

It was not until 1954/55 that specific steps were taken to involve women and children in the CD programme. But since CD was a rural project, the women’s programme was geared mainly towards the family, the household, hygiene and health. Little effort was made to assist women in their agricultural and economic activities. The project aimed to employ female personnel for the social and health aspects of the programme in the CD Blocks in addition to the two VLWs per Block. Special emphasis was placed on training personnel to carry out the social side of the project. The already relatively unimportant female VLWs became even less important after the practice of training men and women together ceased.

The first evaluation (METHA Report, 1957) led to the following modifications:

- (1) concentration on agricultural development (75% of the time of a VLW to be spent on this sector);
- (2) the introduction of autonomous administrative bodies at all levels (village, Block, District = Panchajati Raj).

The evaluation of the METHA Report resulted in the improved training of personnel and better programme planning, although even improved training could not prevent the failure of the two fundamental ideas inherent in CD. A cooperative approach was alien to the traditions of the hierarchic administrative structure, and the VLWs preferred working with land-owning farmers.

The CD programme in India has been sharply criticised for two reasons: first, the neat formal divisions between the various training facilities – 100 VLW training centres, 20 VLW training centres for women, 3 extension training institutes, 45 departments in colleges, 15 graduate departments for SMSs and BDOs and a National Institute of Community Development for senior functionaries. Secondly, only landowners were represented in the village, Block and District councils.

The Indian village had never simply been a unit, a harmonious and classless community. This is presumably where the basic mistake was made: instead of taking account of actual interests and conflicts of interest in different groupings, the village was treated as a unit. However, this illusion of a coherent whole only endured as long as the various groups were dependent on one another socially and on each other's labour.

The duties of the personnel in CD were as follows:

The Village Level Worker was responsible for:

- carrying out all technical operations in the fields;
- giving instruction and spreading the ideas of CD in groups and with individuals (seed, cropping methods, etc.);
- links with all other service institutions (marketing, credit, means of production, etc.);
- supporting non-agricultural activities (construction of wells, biogas, etc.);
- developing the work of Panchajati Raj at village level.

In theory the female VLWs were also supposed to carry out the same duties, but they were only marginally involved in the last three activities. The attitude of senior staff to gender roles meant that female VLWs were largely excluded from this work.

The **Subject Matter Specialist (SMS)** was stationed at the headquarters of the Block and worked as an extension officer (EO or BEO) mainly with the VLWs, the traditional village leaders and the chairmen of cooperatives and village committees. The group of village advisers and specialist advisers was directed by the **Block Development Officer (BDO)** and the **District Planning Officer (DPO)**.

The programme aimed to create unity but in fact gave rise to even more inequality: "The inequitable rural economy has allowed prosperous farmers to monopolise the institutions and to turn them into the preserve of the politically and socially influential groups in the higher castes" (from a report in the newspaper "Northern India Patrika", 04.08.65; quoted in KANTOWSKI, 1970, p. 11). The Untouchables (Harijans) were not reached by the programme.

When the programme is assessed as a whole, the following advantages of the integrated approach can be seen:

- The creation of new village institutions produced development stimuli.
- People saw signs of change, and hopes were aroused that the old order could be radically changed.
- The whole innovation process was accelerated by a uniform development administration.

As a result of the **METHA Report**, changes were made in the supply of production means which were conducive to a considerable increase in agricultural output.

But there were also clear disadvantages:

- Economic development has given rise to a pronounced discrepancy between the prosperous section of the population and small farmers.
- The programme was expanded far too quickly. Before it was possible to check its effects, the model had acquired its own momentum and the most business-like farmers had seized the advantage.
- There was no real participation in the programme by the population.
- The poorer people were far too often expected to carry out manual work (road building, etc.).
- There was no clear, practical target, so that the VLWs were often left to themselves and they worked together with village committees rather than with the ordinary people.
- Because of their low status in the village hierarchy, the VLWs failed to assert themselves, and as a consequence they were not treated with the respect necessary for them to carry out their work.
- The hierarchic structure of the administration made planning into a bureaucratic exercise and produced only paperwork.
- Personnel of low status were entrusted with a key development activity; extension was delegated to people who had neither standing nor influence in the village. Jobs were allocated that defied precise definition, with the result that personnel who should have acted as intermediaries were overburdened.

Moreover, **conflict situations** always arose where **extension work** and the **extension approach** were implemented via the village adviser:

- (1) conflict between subject-oriented training and giving jobs to colleagues (cooperation, etc.) in a hierarchic structure;
- (2) conflict between the norms of the plan and the wishes of the villagers or influential groups;
- (3) conflict created by the multiplicity of tasks: agricultural extension, road construction, procuring production inputs, building up cooperatives, statistics and credit accounting.

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#### Compiled by:

Rolf SÜLZER, Gerhard PAYR

## Socio-economic development approach: "Animation Rurale" in Francophone Africa

The method used in "Animation Rurale" was developed by IRAM, a private French development aid institute (Institut de Recherches et d'Application des Méthodes de Développement). IRAM's philosophy is founded on the analysis of post colonial societies in Africa whose former unity has been economically, socially and culturally fragmented. The mass of the rural population exists side by side with an urban class of functionaries but without any real contact. Thus the main objective of AR is the integration of rural areas in the national economic and social system. Instead of rural communities being regarded as harmonious units, as in the case of Community Development, they are seen as units composed of groupings with diverse, even conflicting interests and power struggles.

The aim of AR was to turn rural communities into confident, development-oriented partners capable of challenging the local development administration and to force them to abandon their colonial role of passive receivers of instructions. The communities were supposed to articulate their own needs and present them as projects in the national discussion of the development plan (see the parallel to the "Ma-jeutics" of GRAAP, → D 7). On this basis, contracts to provide services were to be drawn up with the development administration.

Animation Rurale started by tackling two basic weaknesses:

- Colonial administration had created a rural population that was not accustomed to articulating needs. Nor had it the confidence to **take responsibility and act politically**. Thus it was necessary to create or activate the right attitudes and abilities.
- The rural population did not have the **technical know-how** to go beyond the expression of basic needs or to define development projects and to carry them out by means of self-help.

These deficiencies were to be remedied by training "Animateurs". Every community was to have at least one Animateur. He was to be delegated by the community to represent them. By virtue of his training, he was supposed to be able to initiate discussion and stimulate the community's own development efforts. He was expected to maintain the momentum and also to establish links with the various development administrations. The Animateur was to take on a leadership role without competing with the traditional leaders in the village. The Animateur remained part of his community and was not paid. The community had therefore to motivate him to carry on with his work.

This concept was first applied successfully in Morocco and then transferred in 1959 to Senegal. The following procedure was adopted:

**1st stage:** Creation of an "Animation Rurale" service in the Ministry of Rural Development

- creation of a central authority
- selection of regions for programmes
- creation of a "Centre d'Animation" at regional and "department" level
- preparation of course programmes

**2nd stage:** Preparation of selected farmers for their role as "Animateurs Ruraux" (AR)

- recruitment of future Animateurs
- running courses at first level

**3rd stage:** Mobilising communities

- supervision, control, further training of Animateurs on the job
- running courses; 2nd level = technical and organisational know-how
- restructuring the rural communities in the larger projects to create "Cellules de Développement".

**4th stage:** Creation of new administrative and social structures and integration in the national political system.

The crucial stage in the programme was selecting Animateurs, training them and encouraging them in their work situation. The aim was of necessity to recruit personnel who were basically selfless individuals, and the villages chose the AR according to the following criteria:

- 25 – 45 years old; or in societies where the age structure was important, they were to be mature adults;
- recognised achievements as farmers;
- good social position in the village (not a "leader");
- accepted unreservedly by the village as the AR and representative of the village.

The three-week course at the first level comprises general political orientation, economic and technical topics and practical preparation for the first project activities in the village.

This programme can only be implemented with the full and open support of governments. If they do not share the basic philosophy, IRAM cannot even begin its work. Thus we see the direct link between politics and development work most clearly demonstrated in this programme, even though it plays basically the same role in other programmes as well.

The government of Senegal was the first to provide the resources to carry out this programme (1959) and in 1967 seven thousand Animateurs were employed. The Ministry for Rural Development was formally responsible for implementing Animation Rurale. Shortly after the establishment of Animation Rurale, so-called "Centres d'Expansion Rurale" (CER) were set up in the lowest administrative units with the aim of bringing together and coordinating the various development administrations to produce common programmes. In the CER the communities, made receptive by Animation Rurale, could have found ideal discussion partners who possessed the above-mentioned technical expertise. But, with the exception of a few isolated cases, the CER were prevented by internal administrative factors from playing this ideal role.

A parallel and largely independent enterprise was the work of the agricultural advisers of the private French company SATEC (Société d'Aide Technique et de Coopération), which is comparable with GTZ. They had a clear extension brief and the necessary technical and financial support. These advisers were recruited from the rural population in the same way as Animateurs. The majority of the staff in the rural services that were brought together in CER rejected the basic idea of Animation, namely limited self-determination in rural communities. Since the Animateurs were of peasant origin and despised by the better educated functionaries, negative attitudes determined the level of cooperation. Thus Animateurs were regarded as unpaid helpers who were there to carry out the orders of the administration at village level.

Little credit was given for the political work of AR, not only later in Senegal but also in other countries. The Animateurs themselves were in an ambivalent position. The advisers belonging to the specialised intervention companies were superior as far as technical know-how was concerned. Because they worked with the farmers, the Animateurs could identify projects – but when it was a question of actually implementing them, AR and its personnel were no longer mentioned. And finally it was maintained and accepted that farmers needed specialist services. This situation was created by internal political power struggles and the restructuring of rural services, but the general economic difficulties of Senegal were an additional contributory factor. These difficulties resulted from the years of decline in the price of groundnuts, the country's main export crop.

There is an "Animation Rurale Feminine" (ARF) in all francophone African countries. ARF has often adopted the European image of women. Thus when women were the subject of development aid, issues important to African women were rarely addressed and specifically European objectives were pursued instead, like child-care, hygiene, domestic science and nutrition. This approach was destined to failure, since the sometimes very independent position of women was not taken into account.

### Summary

- (1) The Animateurs were intended to occupy a social position in the village. But it was impossible to create a firm foundation for a new role of this kind in a relatively short time. No one, not even the Animateur himself, knew where he really belonged in the traditional social structure.
- (2) This uncertainty regarding status was exacerbated by ill-defined responsibilities, in direct contrast with the agricultural adviser, and by the lack of political support from the low-level officials.
- (3) People were frequently chosen as Animateurs who fulfilled the urban "standard" but were not representative of the villages.
- (4) Thus as innovators they were marginalised, whereas their "colleagues" from SATEC were welcomed as innovators.
- (5) Female advisers were trained according to the European image of women. Since their function was also only marginal, female advisers did not achieve the influential and independent position of African women in agriculture.

Like other approaches described in this book, Animation Rurale did not fail as a philosophy of extension. Its lack of success was due to having to wrestle with different problems in each of the different locations where it was introduced. Thus it did not achieve a large-scale breakthrough on a national level. There were too many opposing forces for this to happen, and in addition the general economic conditions were not in its favour. Nevertheless, in the regional context and in specific locations, AR did achieve many encouraging successes. Some of the important basic ideas and methodological principles of AR are still applied and successfully emulated today. This also applies to countries outside francophone Africa.

Although most of the early IRAM members have now become French university teachers, the institute as such still exists – its work has not become superfluous even today. Further information can be obtained from: IRAM, 49 Rue de la Glacière F 75013 Paris, France.

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### Compiled by:

Rolf SÜLZER, Gerhard PAYR

## **Action research and education: “Comilla Approach” in Bangladesh**

The Academy for Rural Development was founded in East Pakistan (now Bangladesh) in 1959. (It was originally the Pakistan Academy for Rural Development – PARD and is now referred to as BARD). It is a successor to the Village Aid Academy that played a leading role in Pakistan in the Community Development programme that was financed by the Americans. It was and still is an educational establishment that also carries out research for rural social scientists, psychologists, administration specialists, agricultural economists, agricultural producers and educationalists.

The basic concept underlying its programme is **action research**, i. e. applying the results of observation (observational research) and systematic surveys (survey research) in practical projects. The scientist's duty is therefore to take responsibility for converting the results of research into practice.

BARD is situated in the Comilla District, which covers an area of 260 km<sup>2</sup> and has approximately 200 000 inhabitants. Its main objective was to familiarise administration specialists with rural development. BARD approached this task in an unusual way: first, after initial socio-economic surveys, pilot projects were started and tested in the vicinity of the Academy. They included new production methods, local self-administration and also infrastructure programmes.

Initial reactions to this programme and experience gained in India gave rise to two major projects:

- (1) The “Thana Training and Development Centre” (TTDC). The ideas of the first director of BARD, A.H. KHAN, were influenced by experience of Danish adult education, that had encouraged the setting up of new facilities and meeting places in rural areas. Thus the TTDC rather than the police station became the central public building. Public administration was concentrated in one building: agriculture, animal breeding, fishing, health, education. These were specialist departments of the National Extension Service. A local government council was also created and housed in the TTDC.
- (2) The new administrative unit TTDC was supplemented by cooperatives at village level (KSS = Krishi Sambaya Samit) that took over extension work for both members and non-members. The “Kotawali Thana Central Cooperative Association” (KTCCA) had several functions: purchasing produce and marketing, savings and credit, hiring out equipment, water supply, training in agriculture and coordinating development efforts with the services already available in the villages.

A new extension approach was finally established with the help of the "Thana Training Centre" and the village cooperatives, each of which selected a model farmer (in the non-agricultural sector a "local leader") who came to the TTDC for one day every week. Thus he was given regular training, and when he returned to his village he took with him simple instruction sheets and drawings.

These model farmers had to commit themselves contractually to pass on their knowledge, to test new methods and to establish contact with the specialist advisers of the National Extension Service at village gatherings.

In place of a "discouraged army of poorly paid and inadequately trained and motivated village advisers, local leaders (receptive farmers) were now trained by specialist advisers. These leaders were selected for training in the "Thana Training Centre" by groups in the villages" (KHAN/HUSSAIN 1963, p. 14).

The pursuit of individual aims in isolation was prevented by the fusion of general extension services, representatives of village cooperatives, the government and BARD in the Local Government Council of the "Thana Training Centre".

To raise efficiency in the agricultural production sector, two more projects were created:

- (3) One was the "Rural Works Programme" (RWP) to carry out road construction, drainage, canal and dam building and to create out-of-season employment for landless workers. This programme was supported in technical matters by the engineers of the Road Construction Department and the Water and Power Development Authority (WAPDA) so that there was no need to call in outside construction firms.
- (4) The other project was the "Thana Irrigation Programme" (TIP). In this case too a subsidiary effect was employment for landless workers plus training in technical skills.

The principles underlying the Comilla approach to rural development make it quite different from the Indian Community Development Programme (→ A 4):

- The village cooperatives (KSS) were at the heart of the development programme. They were not formed as a condition for receiving credit and means of production (a practice seen, for example, in the IRD Programme in Bangladesh) but were active working groups of farmers and non-farmers who exchanged ideas and information.

- The programme did not set out to address the whole population of a village. Only farmers with several acres of land were considered for the cooperatives, since they required contributions and investment of savings on the part of the farmers. At that time a "small farmer" was interpreted as someone who owned about 5 – 15 acres divided into several plots. This was the group to be targeted and activated, not primarily the farmer with 0.8 acres. This meant in effect that more than two thirds of the population were excluded. The aim was to build up the optimum unit size of the cooperative as quickly as possible, so that wells could be constructed, tractors used and credit given – comparable to large holdings with 50 acres.
- The cooperatives were to be democratically managed and to accumulate so much capital over time that they could run their own central processing facilities.
- The concept was based on **village development plans** that indicated where enterprises could not be run by a village or cooperative alone. Thus eventually plans were extended to cover a number of villages, giving rise finally to a Thana development plan. This plan evolved therefore from the ideas and discussions that had started at the lowest level.
- The continuous training programme was an integral element. Whereas CD operated with the Village Level Worker who was responsible for everything, in the Comilla approach there was no professional adviser to implement a programme on behalf of the government. Training and extension were carried out by the members of the cooperative itself and not by outsiders. Outside help was made available as often as possible – either through BARD or by foreign experts, members of the Peace Corps, etc. – but it was help that was requested and not imposed.

It has to be emphasised that the aim of the overall programme using the Comilla approach was to mobilise local resources (material and non-material). No development objective was prescribed (number of cooperatives, increase in production), but people were shown the route to follow. Put in simpler terms, we can say that **the route itself was the objective**.

Since 1961/2 women from the strictly Moslem Bengali villages have been included in the Academy's programme. The same principle applies to both men and women. For a small remuneration, women volunteers act as a link between the training institute and the wives of neighbours. As in the CD programme, they are involved in a wide variety of activities, but agricultural work outside the home is out of the question.

Cooperation between the sexes was and still is impossible because of strict segregation of men and women. However, a women's group was tolerated, but only where a male cooperative already existed. This meant that the women were not

only restricted in terms of location but were also dependent on the men. Without consulting the women, the male groups took decisions affecting the cooperative as a whole. (When financial problems arose, the savings of the women were sometimes used but not returned.)

The success of women's groups depended much more than men's groups on the female advisers and the teaching staff at the training centre. Because of the limited resources and the social restrictions, the chances of female advisers working in the villages were slight.

Newly founded or disintegrating groups fluctuated greatly because of inadequate extension work and poor supervision. A further obstacle was the fact that women in the villages had no experience of group work, and communication with them was therefore extremely difficult.

The IRDP programme for women (Integrated Rural Development Programme) that has been implemented since 1976 in some parts of Bangladesh has built on the experience gained in the Comilla project. In this case it has proved possible to create women's groups that are independent of the men's groups, and efforts are being made to encourage not only a higher level of self-reliance but also involvement in economic activities.

The initial indications are that there is a surprisingly high level of participation in the programme, although really effective work is hampered by a shortage of credit for women. Experience certainly shows that women are more reliable than men when it comes to repayment of loans, but nevertheless women are not regarded as creditworthy under the usual loan conditions, since they have no security.

It was mainly for political reasons that the endeavour to propagate the Comilla approach on a national scale was short-lived.

With the help of foreign donors, the Comilla model was instituted on a national level in 1978 under the title "Intensive Multi-sectoral Area Development Projects of IRDP". What was intended as a development programme over 30 years – spreading gradually from village to village and Thana to Thana – is now in the hands of the state. The "International Agency for Development", which is financed by Danish, Swedish and other development organisations, carries out comprehensive regional projects and a programme of "supervised credit" and marketing. The cooperatives at village level (KSS) are still the corner-stone of the system, but today this is not due so much to their own initiative. The formation of cooperatives has become a precondition for sharing the financial resources at the disposal of the management of "Integrated Rural Development" and for sharing the benefits of cooperative societies.

The name has been retained, but the functions have changed. As in the case of Community Development in India (→ A 4), the result of creating hierarchies and

national planning has been that the capacity for self-help has been weakened rather than encouraged.

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#### **Compiled by:**

Rolf SÜLZER, Gerhard PAYR



## Promoting basic training: “Farmer Training Centres” in Kenya and Senegal

It is not only in Europe that training farmers was recognised long ago as an essential ingredient in rural development. The underlying hypothesis is that basic training enables the farmer to adapt at a later stage and of his own volition to changed circumstances, to absorb new information and to modify his farming techniques accordingly.

In Kenya, this kind of training began outside Nairobi in 1934. The aim was and still is today to train male and female subsistence farmers to be market-oriented, commercial farmers by means of first a two-year and then a one-year basic course. Women are especially important, because 45% of households in Kenya are run by women.

This objective was initially supported in Kenya by the British Colonial Government and then by the Ministry of Agriculture that provided back-up measures.

With the sponsorship of the ministry (Farmer Training Section) the FTCs are the responsibility of each District Agricultural Officer (DAO). This nominally ensures close links with the state extension service. This arrangement also applies to the six of the total of 27 FTCs that are sponsored by the National Christian Council of Kenya.

The FTCs have always catered for women in training courses – partly because of their obligation to foreign donors. But from the outset these courses were always shorter than those for men and had little relevance to the concerns of rural women. Training for leading roles in extension is open to women in theory only, since participation is mostly frustrated by “minor obstacles”. Boarding facilities, for example, exist only for men.

From the beginning, the FTCs in Kenya were concentrated (as in other countries like Senegal, Tanzania, Uganda, Lesotho, Korea) in the vicinity of research and training institutes and in particularly fertile regions with existing links with the market and where production could be raised quickly.

The **objectives** influenced the training programmes in a characteristic way. The basic training was reduced from two years to one year, and by today it lasts only **one week**, which means that **short courses** in very specific techniques to produce marketable crops have replaced integrated programmes.

Thus the people reached by the one and two-year training phase and later by short courses were mainly progressive male and female farmers. The short training pro-

grammes (with about 40% of the participants being women) comprise courses in general agriculture, livestock, breeding, tea and coffee cultivation, cotton and pyrethrum cropping and domestic science. With this concentration on the requirements of the market there is little scope for problem-oriented courses from the viewpoint of the farmers. The clear shift of interest in recent years is revealed by a number of indicators:

- (1) Even though costs were relatively low (US\$2 = 15 Kshs per week), in 1971 40% of the total 1 500 places were not taken up and 30% of the courses were cancelled.
- (2) This interruption was not compensated by the fact that more and more other courses had been shifted to the FTCs before 1971:
  - courses for local "leaders";
  - basic and further training programmes for advisers;
  - further education for employees of the ministry;
  - special programmes for women and young people.
- (3) Attendance by male and female farmers dropped by 45% between 1966 and 1971.
- (4) Constantly changing teaching staff at the FTCs and little interest in the problems of the farmers is causing the situation to deteriorate even more.

There are more cases of **failure** than **success** in the FTCs. Many factors combine to cause the constant decline in courses and participants:

- (1) The heads of the FTCs and the representatives of the ministries have tacitly **assumed** that these institutions are **well known**; but in actual fact surveys show that even farmers in close proximity to FTCs have only a vague notion of what they are.
- (2) Both male and female farmers are reluctant to leave their **familiar surroundings** for a week or more; thus, once again, the people who are attracted are already relatively mobile.
- (3) For years the FTCs concentrated on work in the **classroom**, and practical activities were only introduced at a much later stage.
- (4) Course programmes were regularly **planned without consulting representatives of the farmers**, women or the advisers. In practice, the arrangement of courses consisted in the DAO or a member of the FTC giving an order to the front line extension worker: "You are to recruit a course on such a date, on such a subject" (BARWELL, 1975).

- (5) Classes were often composed of people of different age, sex, education, agricultural know-how and with different farming systems, etc. Course material, that was often delivered parrot-fashion by the junior extension staff, rarely made a positive impression on the participants.
- (6) In summary, two sets of factors can be said to have significantly affected the work of the FTCs:

#### Factors partly under the control of the heads of FTCs:

- poor teaching;
- low prestige of teachers;
- inadequate programme planning;
- lack of participation by people attending courses;
- little publicity;
- inadequate job description for the staff;
- little coordination between practical extension in the fields and the FTCs;
- slackness in recruiting participants;
- poor transport facilities;
- insufficient follow-up or none at all.

#### Factors partly beyond the control of the heads of FTCs:

- low level of finance for annual programmes;
- poor provision of teaching and learning materials, especially practical equipment;
- no funds to replace old or unusable materials;
- poor transport facilities (the public system and FTCs' own)
- organisational deficiencies (schedules, programme planning, uncoordinated use of personnel, etc.);
- non-evaluation of success and failure (listing mistakes, etc.);
- no account taken of major occurrences like droughts, animal epidemics or plant diseases;
- insufficient accommodation in FTCs;
- no telephone links with the DAO, local authorities or the ministry.

This training/extension approach that is operated in **Senegal** in Rural Training Centres (RTCs) initially achieved marked success in larger farms and with market-oriented farmers. In Senegal, only married farmers with more than 2 ha of land were chosen as the target group in the expectation that, as in Kenya, they would have a **demonstration or pilot effect** after returning from their training session. But, in Senegal too, marginal social and technical conditions have prevented this process.

At first the number of participants was lower than expected. In the first phase there were 382 instead of the planned 700 participants, which is attributable to poor publicity. An evaluation of those who did take part showed a short-term yield increase of about 50% per ha, but a demonstration effect did not materialise. The

trainees were supposed to constitute a new "elite", but they tended to be rejected by their neighbours. The same was true of the innovations that they introduced. The initial positive effects were eventually lost because of inadequate follow-up by the FTCs and the lack of technical services, marketing and credit.

In conclusion, the lesson to be learned from the work of FTCs: if only a few trained extension staff are available, concentration on one crop and systematic training in specific cropping techniques can represent a successful programme for individual farmers. But an FTC programme can only be sustained in the long run if all influencing factors can be controlled. A programme can only have a demonstration effect on the small-farmer population if it is really relevant to their work and problem situations.

The FTCs in East and West Africa have largely ignored women in their programmes, although it is precisely in these locations that women are almost exclusively responsible for food crops. The female advisers working in the countryside can only operate in the domestic sphere. They are not responsible for cultivation or livestock husbandry, marketing or credit, all of which are, however, necessary for meaningful extension work in household matters, since it is women who take charge of feeding the family, from the production to the processing of food crops. If, moreover, the whole supply system in the primary and tertiary sectors cannot be coordinated (ranging from production inputs to marketing), we anticipate the collapse of the FTC initiative for small farmers in the long term.

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#### Compiled by:

Gerhard PAYR, Rolf SÜLZER

## Decentralised and participatory development work: "DESEC" in Bolivia

We now illustrate a decentralised and participatory aid and project policy by taking as an example an extension and development programme that started with a relatively low input of resources and then progressed in phases.

The title "DESEC" (Centre for Social and Economic Development – Centro para el Desarrollo Social y Economico) stands for a private development programme for Bolivian small farmers. Since 1963 DESEC has organised 200 groups that have involved some 3 000 families. This work was started by a Bolivian adviser (DEMEURE) who investigated the feasibility of rural projects on behalf of the Latin-American Institute for Socio-Economic Development. He commenced his practical work with existing Catholic action groups in the highlands of Bolivia.

According to his **development hypothesis**, sufficient financial resources and institutions already exist, but the small farmers, who find it difficult to articulate their needs, have no access to them. The only way to break down the peasant families' mistrust of development aid is by open and frank discussion. Matters are discussed with women in particular. The men (the traditional targets of extension) in any case discuss with them any measures to be taken. Moreover, women have to be encouraged as a matter of urgency to take part in social and agricultural programmes and concerted campaigns.

Women and small farmers whose farms were smaller than the national average of approximately 2.5 ha were defined as the **first target groups** to be addressed. The aims of the programme were not specified in advance, but the approach was prescribed: each development group should formulate its own interests and work out a development plan for the group.

The **organisation** of the programme took the form of meetings in schools, at market places and festivals where staff of DESEC spread the idea of farmers' groups working out their own aid programme, a set of rules and a development plan. This led to the following course of action:

- Local groupings formulate their interests; committees representing regions or aspects of the programme see that the work of the programme is actually carried out (for example, rice, sugar, cooperatives, house building).
- Using existing facilities, finance is raised with the help of DESEC.
- The groups, working independently, receive technical support from the four linked institutions belonging to the umbrella organisation DESEC. After

some time it proved necessary to strengthen these, since they lacked the required level of technical backing. The four "centres" concentrated on the following:

ASAR agriculture, animal husbandry, crafts and rural services;  
 VIPO house building;  
 SEPSA health measures;  
 ICE training small farmers.

- With a staff of three the centre runs basic courses in the local language on all aspects of the rural economy.
- Participation in any programme is definitely voluntary. Working in a local group involves individuals just as much as in the umbrella organisation. There is no collective membership and therefore no automatic representation of a local group at a higher level in the organisation.

It is incumbent on the local groups to formulate the **content of extension and measures** in a development plan. The centres act only as a lobby for the farmers and their families. They try to find out where resources exist and what measures families can carry out for themselves. Extension work consists mainly of:

- helping groups to discuss their problems and to work out ways of solving them;
- subsequently helping groups to achieve their aims by training measures, drafting applications for credit and raising the necessary finance.

Table 1:

Financing and costs of the DESEC Programme 1973/74 in US \$	
Gross national product (GNP) per capita	190 \$
Growth rate of GNP per capita	2.2%
Returns/costs ratio	1.75
Long-term returns	2 392 000 \$
Long-term costs	1 363 000 \$
Average farm size in acres	5.0
Percentage of farms in the programme with farm size below the national average	100.0%
Growth of annual farm income	11.1%
Level of repayment for short-term credit	96.0%
Project costs	70.0%
Annual interest rate (adjusted to take account of inflation)	6.9%
Average family income	300 \$
Number of farms in the programme	3 000

The setting-up phase of the programme lasted from 1963 – 66. There was political opposition from the clergy in particular. The Bolivian government did not involve itself until the charity Misereor had taken over the financing of the programme (→ Table 1).

**Source:**

E. R. MORSS et al: Strategies for small farmer development. Vols. 1 and 2, Boulder/Col. 1976. Vol. 1, pp. 15, 109, 175, 249 and Vol. 2, pp. 250 and 254.

**Compiled by:**

Rolf SÜLZER, Gerhard PAYR

## The "CFSME" Extension System

A systematic extension approach was developed in the late 1970s in the Swiss agricultural project in the "Préfecture Kibuye" in Rwanda. In 1979 this approach was officially introduced in Rwanda's monthly agricultural magazine and then elevated by the Rwandan government to the "National Extension System" (SNV).

A free translation of what appeared in the publication in 1979 is as follows:

CFSME = C – Conscientisation = awareness creation  
 F – Formation = training  
 S – Stimulation = stimulation, motivation  
 M – Moyens = resources  
 E – Evaluation = evaluation

### Introduction

Effective agricultural extension is achieved by an optimum combination of the above elements. They complement each other and are only fully effective if they form a coherent whole.

The system has to be adapted to particular circumstances so that it has an integrating function, i.e. so that the methods of creating awareness, training and motivating and the proposed resources ensure that these activities form an integral part of the socio-economic and cultural context. Thus the methods can be adjusted and applied elsewhere. But to achieve this kind of adaptation, it is essential to be thoroughly acquainted with local circumstances, so that the system is perceived as genuine help in the process of development and emancipation of a particular population and not as something imposed from above by the authorities.

The best extension method is the method that is appreciated by the people and not necessarily the one that is technically perfect. The CFSME type of extension is not necessarily confined to agriculture. It is quite possible to use the same system to carry out health counselling (preventive medicine and nutrition), skills development or multisectoral extension, i.e. a combination of, for example, agriculture, nutrition and manual skills, so that interconnected problem areas are tackled.

Extension in the CFSME system is organised in geographically defined regions that also coincide with social communities. If the people targeted in this kind of system know each other, they are more likely to want to work together to solve shared problems. The administrative division of Rwanda into communities and community sectors is ideal for this approach.

The central body in extension using the CFSME system is the extension commission, consisting of:

- the member of the community in charge of the sector;
- the representatives of the cells;
- the agricultural field advisers, the veterinary assistant and the social worker for the sector.

The extension commission is trained, advised, supervised and supported by the multidisciplinary group of staff employed by the Community. This group combines the skills of:

- an agronomist;
- a vet;
- a medical assistant;
- a social assistant;
- the mayor, etc.

This varied group at Community level should be trained by a central service in the Prefecture. Such a service could be provided, for example, by the Training and Development Centre in the Prefecture (CPFD) that has the job of developing and producing teaching materials for use in advisory sessions. This teaching material should serve equally to train extension staff and the population. It should enable farmers to recognise their own problems and their situation and show them ways of overcoming them. It should be attractive enough to stimulate the interest of the people.

**The course of extension in the CFSME system:**

→ Figure 1 gives an overview of all the phases of extension in one year. It also explains the most frequently used abbreviations.

**First phase:**

The staff of the Community and the Prefecture make contact with the local people in their specific environment, so that they can study the population's perceived and unperceived problems, familiarise themselves with the socio-economic and cultural context in which the problems occur and analyse the problems to identify causes, to find out how the problems are structured, etc. The content and topics of extension are then selected and the teaching material is developed on the basis of this information. After making contact for the first time, more opportunities arise to discuss and examine possible solutions and their chances of success with the representatives of the population.

Figure 1:

The complete CFSME extension system in a sector over one year.					
C = conscientisation (Awareness creation)		F = Formation (Training)	S = Stimulation (Stimulation)	M = Moyens (Resources)	E = Evaluation (Evaluation)
Sequence	What?	How?	Who?		
1st Phase C	1. Getting to know the locality 2. Analysing the acute and latent needs of the population 3. Working out priorities for intervention	1. Field visits 2. Discussions with farmers and 3. Synthesis of needs analysis and technical factors	Population, technical personnel of the Prefecture and the enquiries communities, SAF Technical personnel of the Prefecture, SAF		
2nd Phase C,M	1. Deciding 3-5 extension topics 2. Devising teaching aids to increase the problem awareness of advisers and the population and to train them 3. Setting up the required infrastructure	1. Meeting of all technical personnel and representatives of the population 2. Teaching materials workshop of SAF 3. Fields for seed propagation, tree nurseries, organisation of seed distribution	Representatives of cells and farmers in an advisory capacity, technical personnel of the Prefecture and the communities, SAF SAF Personnel of the Prefecture and the communities		
3rd Phase C,F	1. Forming an extension commission (CV) 2. Training the extension commission (CV) 3. Deciding the rules of the agricultural competition (CA)	1. Nomination and election of commission members 2. Training on 5-10 days on the selected extension topics 3. Taking as a model the rules worked out by the extension commission of the Prefecture	Mayor, technical personnel of the community, SAF SAF, CCDFP, technical personnel of the communities CV, SAF, technical personnel of the communities		
4th Phase F,S,M	1. Measures to increase sensitivity to problems and to train the population 2. Visits to farmers who adopt extension topics	1. Regular meetings with the population (Umuganda, CSD, CN) training on the extension topics 2. Visits every 2-3 months, each visit concentrates on one topic	CCDFP, technical personnel of the communities, SAF CV, technical personnel, SAF		
5th Phase S,M,E	1. Last visit by the extension commission 2. Evaluation of how farmers have put measures into practice 3. Awarding prizes, final celebration by the people in the sector	1. Visit to all farmers who have put extension topics into practice 2. Comparison of results in different communities using standardised evaluation for the whole Prefecture 3. Prizes in the form of materials and other incentives (publication of the names of prize winners, etc.)	CV, technical personnel of the communities, SAF CV, technical personnel of the communities, SAF Mavor, CV, technical personnel of the Prefecture and the community		
6th Phase E,C	1. Reformulation of extension topics in the light of evaluation results 2. Adapting problem sensitivity programmes and training programmes to the new topics 3. Further training for the extension commission (CV) 4. Information from the people on organising the agricultural competition (CA) in the following year	1. Replacing topics with the next most important topics when the aims have been achieved 2. Linking the problem sensitivity programmes and training programmes to the new extension topics 3. Preparing the extension commission for the new topics 4. Information-gathering meeting at cell level	CV, technical personnel of communities, SAF CV, technical personnel of the communities, SAF Technical personnel of the community, SAF CV, technical personnel of the community, SAF		
Explanation of abbreviations	CA = Concours Agricole; CCDFP = Centre Communal de Développement et de Formation Permanente; C,F,S,M,E see top line of table; CN = Centres Nutritionnels; CSD = Centres Sociaux de Développement; CV = Commission de Vulgarisation SAF = Service Animation / Formation Umuganda = "voluntary" community work, organised by the communities, in which everyone has to take part for half a day every week.				

It is not advisable to confront the farmers with too many different problems at once, since they are more likely to be discouraged and confused, and they then become indifferent to development efforts and give up altogether. For this reason it is important to define the short, medium and long-term priorities clearly and systematically.

#### Second phase:

Teaching materials are developed that will create awareness and increase responsiveness. These materials have to be adapted to the local circumstances and take account of field surveys, so that they act as a kind of mirror in which the people see some of their problems, their causes and how they interrelate with other problems. The objective of this second phase is to get the people to ask themselves: "How can we solve this problem?"

The process of creating awareness and increasing responsiveness must take place in the countryside, i.e. we have to go to the people, because they see no point in trekking to some distant meeting place if they are not aware that problems exist. It is of the utmost importance to create attractive materials to make people sensitive to problems and to heighten their awareness. Awareness creation is then carried out selectively in cells or sectors by a team (awareness creation campaign). The "Umuganda" of men, women and children (voluntary community work on one half day each week) provides an interesting context in which to create problem awareness. Instead of the usual physical labour, everyone works together on awareness creation and training. Thus the members of a cell come together regularly over several weeks for training and development of problem awareness instead of working in the area.

By the end of this second phase, between two and five extension topics should have been decided on. The content of the topics should be as balanced as possible and the following criteria should be borne in mind:

- topics that are attractive, i.e. promise the people rapid results;
- topics that are less attractive, i.e. promise results but only in the longer term;
- topics that are selected according to the labour requirement in different seasons, e.g. two topics in the dry season and three in the rainy season.

#### Some methods of creating awareness:

- theatre;
- picture sequences on felt boards;
- visits to farms and discussion of farmers' problems;
- demonstration plots;
- songs and poems;

- observations in the fields; inspecting an eroded field, visiting a progressive farmer, inspecting well fertilised fields, etc.

#### Third phase:

##### Formation of the extension commission:

The Community's group of various specialists organises technical training sessions on the selected topics for the extension commission. These sessions last for a week to ten days and they aim to prepare the extension commission for the work it is to undertake. Thus they provide basic training to equip the commission to take advantage of the solutions that may emerge (establishing erosion control, building stalls, etc.).

In the course of these training sessions the conditions and rules of an agricultural competition are worked out in conjunction with the extension commission. The agricultural competition is an incentive and a means of motivating in the CFSME system. During the meetings to raise the level of sensitivity and problem awareness, the people are then told about the rules of the competition and how it will function.

#### Fourth phase:

Every two to three months, the extension commission makes visits to those farmers who have accomplished something as part of the competition. On these occasions the commission discusses progress with the farmers, advises them and encourages them to even greater achievement or to start new initiatives. At the same time these visits are a way of increasing farmers' insight into problems, training them, giving them encouragement and evaluating achievements so far. The extension commission should not see its role as criticising what has been done badly but should above all acknowledge, admire and praise what has been done well, in order to motivate the farmers.

At the same time the multidisciplinary team of community staff, using carefully adapted, appropriate teaching materials, systematically trains the people in the extension topics.

This training can take place in the context of "Umuganda" (one to two cells over several weeks). It is an advantage if the topics dealt with in the training period fit the seasons (for example, stall building in the dry season, reforestation in November, erosion control in March, etc.). Training of this kind can be carried out in any centre, e.g. a social and development centre or nutrition centre or anywhere in the countryside depending on the facilities available.

Methods and materials suitable for training are:

- picture sequences on felt boards;
- posters, calendars, etc.;
- discussions, talks, exchange of ideas (visits by the extension commission);
- visits to model farms;
- visits to demonstration fields, etc.;

The training and evaluation work of the extension commission is spread over the whole year, during which it is vital that the Community's employees maintain the infrastructure necessary to satisfy the farmers' need for erosion control grass, fruit trees, forest trees, fodder plants and vegetable seed - always in keeping with the topics dealt with in extension (plant propagation fields, sale of seed, tree nurseries, etc.).

Farm notebooks can be introduced to help carry out evaluation. Improvements are noted down, a plan of the farm is drawn showing the different plots and their location, and yields are entered on each plot, etc. If possible, this farm record is filled in by the farmer himself with the help of the adviser. The advisers can extract important information from these records to help them to encourage and counsel other farmers.

The extension commission also keeps a record of the names of farmers visited, achievements recognised and also a keyword account of discussions with farmers. In this way, it is possible to trace the development of performance over a whole year. The information in the record is then the source of data necessary to evaluate the performance of a farm at the end of the year for the agricultural competition.

It is axiomatic that an extension commission has greater credibility if its own members set a good example and demonstrate improvements on their own farms. To ensure that this happens, one or two mutual help groups should be formed from the members of the extension commission who visit each other on a weekly rotating basis to put improvements into practice (erosion control, stall building, reforestation, etc.). This is at the same time an excellent opportunity for the multidisciplinary group of community staff to extend and deepen the training already given to the extension commission.

**Fifth phase:**

A year after the start of the agricultural competition the extension commission comes together again for a final round of visits to all the farmers who have undertaken improvements that qualify to be considered for a prize. During these visits the

extension commission judges the achievements and how they have been maintained over the whole year. Their verdict is then expressed in points and the farmers with the highest scores are awarded prizes in the form of tools (artificial stimulation → D 5).

Prize giving is accompanied by a celebration in which all the local people take part and the progressive farmers are introduced to all those present. During this celebration, theatre, songs, poems and dances can be introduced to draw attention to further problems to be addressed (for example, a song and poetry competition could refer to one of the topics planned for the second year of the agricultural competition).

Some suggestions for prizes are:

- hoes, machetes, picks, shovels, rakes, forks, empty petrol canisters, roof gutters, building materials for a stall;
- roof tiles for a house, a sack of cement, spraying equipment for a cell, wheelbarrows for a cell;
- tools for the Uganda in a cell;
- lime fertiliser for soil improvement;
- improved seed;
- vegetable seed and mineral fertiliser.

The CFSME system deliberately aims to raise the prestige of progressive farmers, so that aspiring to prestige becomes a generally worthwhile target for the rest of the population. Incentives, awareness creation and training play a major role in this endeavour.

Some ways of motivating farmers are:

- authorities visiting progressive farmers;
- a certificate being issued to progressive farmers by the Community;
- publication of the names and photographs in the newspaper;
- naming them on the radio;
- presenting medals to progressive farmers;
- signboards at model farms;
- visits by the extension commission to progressive farmers.

The end of a year-long competition is also an opportunity to give the people some results in detail, e. g.:

- the increase in yield on a plot since the farmer started using fertiliser;
- the increase in value of a reforestation initiative over one year;
- the value of the dung of five goats of this or that farmer over one year, etc.



All the evaluation results of the previous year can be summarised in the report drawn up by the extension commission.

**Possible instruments of evaluation:**

- record book (to be kept up-to-date by the farmer or a functionary);
- report book of the extension commission;
- survey with prepared questionnaire;
- record of individual farms kept by the advisers;
- record of plants issued by nurseries and plant multiplication fields kept by the person in charge;
- animal servicing record kept by the person in charge of the stud station;
- diary entries by the farmer and the Community vet;
- list of modern techniques adopted in the region after one year of the agricultural competition.

**Sixth phase:**

The agricultural competition is modified for the coming year in keeping with the results of evaluation. The topics can thus be amended in the light of experience. Prizes should match the importance placed on material incentives in the next extension topics to be dealt with. Similarly the awareness creation and training programme has to be thought through again in the light of experience and new priorities. This work is carried out by the extension commission in conjunction with the multidisciplinary group of Community staff and the Centre for Development and Training in the Prefecture. Once the programme has been determined, the people are informed and the whole process starts afresh.

**Concluding remarks:**

The CFSME extension system was developed in the Kibuye agricultural project, thoroughly tested over many years and put into operation in the whole Prefecture. A development and training service took responsibility for devising the teaching materials and training the Community functionaries in their use and the organisation and implementation of extension.

Over the next few years the Rwandan Ministry of Agriculture incorporated important elements of this extension approach in the "National Extension System". It appears, however, that the idea of participation and the philosophy of development based on emancipation, that are fundamental to this approach, have had little chance of survival as they were in conflict with the traditions and methods of the Rwandan state administration. At present, discussions are in progress on a new national extension system.

The CFSME extension system cannot simply be prescribed for the whole country. Like all extension systems it cannot possibly be applied elsewhere in toto. Transfer without modification to other locations is out of the question. If transfer is to have any chance of success, we must understand the principles of the system and the basic underlying connections and above all we must be convinced that the extension philosophy that shapes them is correct. → B 1 gives an example of applying CFSME in a completely different African context. More information about the CFSME system is given in → E 12, → D 5 and → D 6. GRAAP, → D 7, adopts a very similar pedagogic approach.

**Source:**

Ernst GABATHULER: Le système de vulgarisation CFSME/AE. In: Bulletin agricole du Rwanda, 12. 10. 1979, pp. 188 – 199.

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**Compiled by:**

Volker HOFFMANN

## The "Training and Visit System" of the World Bank

With similar ideas to those in SATEC (→ A 1) – but without involving the project personnel – an extension programme for irrigated cotton cropping was launched in the lower Seyhan Plain in Turkey.

The farmer education service (CES = Ciftci Egitim Servisi) was financed by the World Bank (IBRD). The organisational structure was developed by an Israeli firm of consultants. The advisers' plan of operations comprised:

- working out weekly programmes;
- keeping in touch with farmers;
- passing problems on to "specialists" at the next level;
- collecting data on yields, leased land, etc., for the annual report of CES;
- giving the agricultural bank the names of farmers entitled to credit;
- attending further training courses lasting one and a half months in the winter.

Opinions are divided on the success of CES in cotton cropping. With the support of the World Bank, the organisational structure was revised for use in other countries, especially Asia, and introduced under the name "Training and Visit System" (T & V).

The originators of T & V regard a clear political willingness to reform the existing extension service as a precondition for introducing efficient extension. The **organisation**, the **content of extension** and the **selection of farmers** have to be completely restructured according to the principles of **unification**, **simplification** and the **creation of priorities**.

- (1) The existence of rural services operating side by side is eliminated. A **unified extension service** is constructed from the ministry down to village level. Some existing services are incorporated in it.
- (2) The extension service is responsible for **extension work only** and does not have other functions like exercising control, collecting statistics, issuing credit, etc.
- (3) After the reform of the extension service, a **well structured plan of operations** is worked out, specifying:
  - a) the number of contact-farmer holdings per adviser;
  - b) the planned visits to contact-farmer holdings;
  - c) weekly or fortnightly further training for advisers;
  - d) weekly visits by the "supervisor" and the adviser to the farmers' fields.

- (4) There is concentration on **rapid results** and appropriate technology and recommendations.
- (5) **Contact farmers** are carefully selected and operations are concentrated on them in the first instance.
- (6) Existing resources are exploited and recommendations are worked out that are **adapted** to the **abilities** of the **farmers**.
- (7) **Direct links** are established with **agricultural research** that is appropriate to the circumstances of the farmers (applied research and specialists at the regional level of the extension service).
- (8) **Direct links** are created to the **supply** of production means and credit.
- (9) The programme is subject to continuous improvement and modification by internal and external evaluation (**monitoring and evaluation**).

The World Bank's approach to extension imposes certain political and administrative conditions which are not easily fulfilled, and calls for a tightly structured project management. In contrast to GOPR (→ A 1), the field advisers are not involved in setting targets. Even the farmers are selected by the extension organisation itself, although they are then supervised very closely.

Thus the T & V system is an amalgam of experience from the "package programmes", the programmes of Integrated Rural Development and the French intervention companies. Not included in this production-oriented programme are the social aspects of development aid that are so important in the Community Development and Group Farming approaches.

However, although a reformed extension service with political backing brings undeniable benefit and practical advantages, we also observe less desirable developments.

Difficulties arise in practice when the system that was originally developed for irrigation projects is transferred wholesale to rainfed agriculture. The **critical points** are:

- the selection of contact farmers. Experience has shown that the flow of information not infrequently stops here, only a small proportion of farming families profit, and inequalities are the result.
- the target group problem. Farmers' families live in a variety of situations. The centralised approach finds it difficult to take account of differing circumstances.
- the field advisers' training is usually confined to production techniques.

There is no appreciation of the relation between farm and family, and even the subject matter specialists rarely deal with this aspect satisfactorily.

- the field advisers sometimes feel that the prescribed system of visits is unjustified patronization by senior staff.
- the field advisers often do not have adequate transport to carry out the prescribed visits to the villages.
- increasing the number of staff and the running costs of the system place a burden on the country's finances. It is doubtful whether the recipient country could continue running the scheme if financing by the World Bank and other donors ceased. (In the Yemen Arab Republic, for example, because the aim was quick success, the World Bank's extension service has become a completely independent service, and it has not therefore led to a state service being built up).

Other authors adopt an even more critical attitude towards experience of the system so far. Taking a relatively narrow critical framework, they regard the above deficiencies as significant and not easily remedied or they criticise them more severely. Thus, it is argued, the system of fortnightly visits over long periods during the year has proved totally impractical and irrelevant, the organisation fails to take due account of the differing locational, transport and socio-economic conditions, the rural poor who are really in need of help are not being reached, and reorganising the state services is not worth the cost involved.

Some experts with knowledge of the problems argue in favour of T & V; others argue against the system. This phenomenon leads one to assume that:

- the authors base their views on different value judgements and concepts of development;
- T & V has different meanings for different people (when does a modified system cease to be a T & V system?);
- the cases they have observed are the product of widely differing circumstances.

If these assumptions are true, we are simply left with a compromise: the suitability of a particular approach can only be judged in relation to the prevailing conditions (the situation-specific approach → Chapter III.14.5).

The words "Extension System" in fact promise more than the actually recommended extension approach can deliver. To achieve success, perfectly satisfactory circumstances are interfered with indiscriminately; traditional, generally accepted working practices and detailed new instructions exist side by side. Nobody bothers

to explain the interrelations that would draw the many elements together into a "system".

In our estimation this raises the question of whether and how the original T & V approach can be adapted to the prevailing conditions and combined with aspects and methods of the participatory approach to mobilising the farmer population. The answer is indicated among other things by the fact that both approaches depend on establishing the actual situation of the target groups, the interactions created by activities, observation and the evaluation of results. In other words, they have to adopt appropriate procedures to achieve the objectives. We can readily appreciate that, for example, questions of farming systems research, adaptive research (socio-economic as well as locational), monitoring and evaluation, training and advanced training of field advisers and senior personnel, cooperation with other institutions, taking account of inhibiting and constraining factors are all of general significance. But we also appreciate that all these factors can only be evaluated in terms of and with reference to a specific extension approach.

It is therefore regrettable that despite the rapid spread of the T & V approach and the different ways it can be evaluated, hardly any empirical studies have been carried out.

In the meantime, some of the projects of GTZ have shown that many elements from T & V's catalogue of recommendations can be applied successfully provided they have been checked for suitability and tried out under the prevailing conditions. The reader is referred in this handbook to, for example, → B 1 and → B 5.

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#### Compiled by:

H. ALBRECHT, V. HOFFMANN, G. PAYR, R. SÜLZER

## **Research and development: Improving agricultural land-use systems by means of "Farming Systems Research"**

Farming Systems Research (FSR), or in French "Recherche des Systèmes d'Exploitation Agricole" (RSEA), is today in the forefront in developing new agricultural technologies and further developing existing production systems. Because it employs an interdisciplinary approach and advocates close ties between research and practice, FSR is akin to the various forms of extension approaches.

### **1. Historical perspective**

The new agricultural technologies that were introduced in the colonies were aimed primarily at the production of export crops. Large-scale land ownership with monocrop plantations predominated. After several decades, a considerable rise in population, an increasing flight from the land and urbanisation, the supply of basic food for the market no longer sufficed. For this reason more attention was then paid to the small farmers who had traditionally been the suppliers of food.

The green revolution made new technologies available, so that the production of basic foods could be intensified. The biggest increases in yield were seen in fertile regions and those where production inputs were intensively applied. This means that the green revolution was only of limited benefit to the small farmers, since they either had no access to the necessary operating funds or were apprehensive of the higher risks involved. Robust, more productive varieties suited to difficult production conditions were not developed until the following generation.

In many parts of the world, regional rural development projects were created in the early 1970s whose aim was a comprehensive development concept that went beyond simply raising production. Rethinking development policy in this way did not occur by chance or in isolation. At the same time there were signs of holistic thinking emerging in the industrialised countries. The Club of Rome published its models of limited growth, and everywhere the connections between the use of fertilisers and drinking water, effluent and marine pollution were perceived. We all became painfully aware that we exist as integral parts of a system and that we are all to some degree dependent on each other.

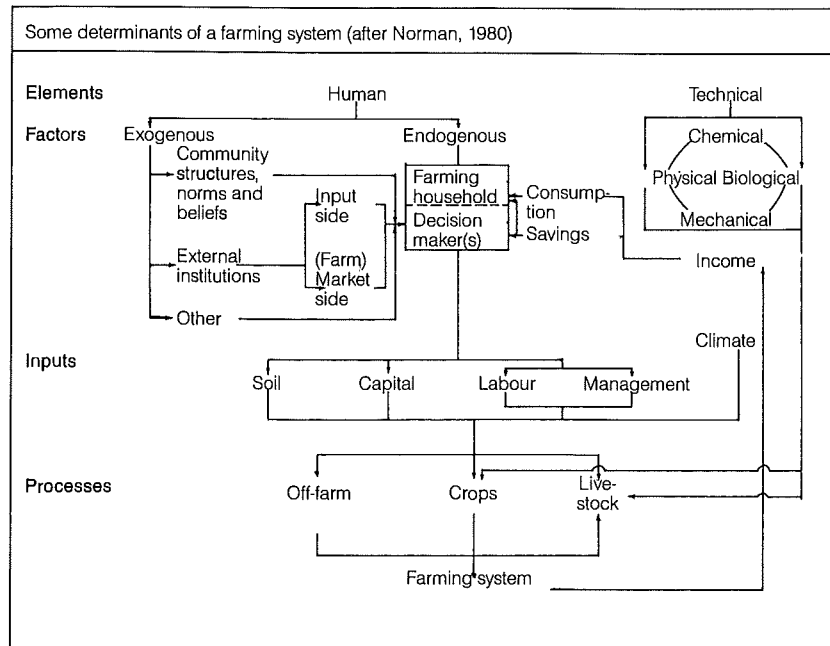
Recognition of this mutual dependence is now reflected in the fact that we regard every field, every plot, every farm and every village community as a system in its own right in which it is impossible to exchange or modify the parts without running the risk of destroying the balance of the whole.

**2. What does FSR do within this multiplicity of systems?**

It is not easy to answer this question because all systems are interlinked and sometimes overlap. This is why the schools of thought interpreting FSR in slightly different ways are on the increase. Figure 1 is more expressive than words.

A farming system is a living organism and, according to development, preference or other influences, it can adapt and change. Any change, however, has repercussions on the total system. The system can be dealt with at different levels, depending on the particular school of thought. Let us take a single field as an example. It is the aim of agriculture to keep this field productive and in the long term to optimise its yield potential. In this system analysis, an FSR programme would concentrate on the effect of mixed cropping and rotations, soil fertility and changes in soil structure, fertiliser fixation and the water balance.

Figure 1:



At another level, where the whole farm system is under investigation, research examines the effect of cropping and animal keeping, whether the fodder base is adequate or what would be the consequences of using organic fertiliser. Another important issue is the seasonal workload and whether outside help is required. We also have to examine the mutual effects of the various types of farming in a single holding.

The term FSR (in the way it is usually applied) also comprises social and market factors. Individual farmers' families prefer different types of holding or have different food preferences. In addition, there is the cultural and religious background of the various population groups to consider (cattle or pig keeping in the case of Hindus or Moslems respectively, etc.).

Norman and Collinson, two FSR researchers, specify the following aim (1986):

The primary aim of FSR is to improve the wellbeing of individual agricultural families by increasing the yield on the farms while bearing in mind their limited resources and the norms of their environment.

It is clear from what has been said so far that FSR does not concern itself with remedying injustices like land distribution and the world economic order, although much underdevelopment is directly attributable to these factors.

**3. How is FSR applied in practice?**

Norman and Collinson identify four phases:

- a) **A descriptive, investigative phase**  
An interdisciplinary team of experts (agronomist, sociologist, economist, ethnologist) tries to establish in as short a time as possible what the farming families see as their needs, what limits and constraints they are subject to and what scope for action the present system allows.
- b) **A planning phase**  
The experts work out possible solutions to problems. Their proposals may be the product of discoveries made by research stations, they may be the results of field trials or may be derived from the fund of know-how and experience of the farmers themselves.
- c) **A test phase**  
The most promising alternatives are selected and tested under the conditions prevailing among the interested farmers. The whole topic of on-farm research (OFR) belongs in this phase.

## d) A dissemination phase

The dissemination phase still contains a research component, since the effects of the innovations that have been applied are observed and analysed. Of course, if different topics are being examined, the four phases could run in parallel but at different rates. Also, new issues might arise in, for example, the planning phase.

#### 4. What has the FSR approach achieved?

It becomes clear from what has been said above that it is extremely difficult to recognise all the determinants in a system and to decide how to weight them appropriately.

The most important innovation is that the small farmer is regarded as the focal point, i. e. that research is target-group oriented. Thus research is no longer determined exclusively by the programmes of research stations but by the needs of the farmers and their specific type of land use. This presupposes that, before a research station is asked to investigate a topic, the farmers' operating conditions are defined very precisely (climate, soil, irrigation, labour, machines, fertilisers, use of pesticides, etc.) and their preferences are established. The existing farming system must be regarded as a total unit in which we cannot arbitrarily implant new technologies.

We can only conclude that technical staff must first learn from the farmer and must understand his farming system, before they can suggest alternatives. The crucial issue is whether they can suggest appropriate solutions to the most serious problems.

#### 5. How do we distinguish FSR from on-farm research (OFR)?

It is frequently but incorrectly assumed that OFR and FSR are interchangeable concepts. Just because an expert carries out his experiments with a farmer on his farm, this is not synonymous with FSR. OFR is an important part of FSR, especially in the test phase. Thus OFR operates within FSR but concentrates on management of the land and techniques of agriculture. By means of OFR we can establish the yield and profitability of a crop and compare the various cropping techniques or rotations. This type of research can also be carried out with varying degrees of reference to the farmer himself. Thus a research worker can introduce a new crop or technique on a farmer's land and then supervise it himself or leave everything to the farmer. But it is always the farmer who ultimately accepts or rejects and who in the final analysis decides whether an innovation is compatible with his farming system. The point at which OFR begins to operate is when the key problem has been identified, solutions have been proposed and then have to be tested under

the farmer's operating conditions. FSR goes beyond OFR because it takes into account the preferences of the farming families and their behaviour, includes the social environment, considers the availability of input sources and marketing channels and incorporates yield-maintaining and ecological measures.

#### 6. What progress has already been made?

We have to appreciate that farmers do not act irrationally but always strive to maintain their farming system in a state of equilibrium under all circumstances. This explains why experts have become more modest, more willing to learn from the people they are dealing with. It is also important to remember that many of the decisions in a peasant agricultural system are made by women, so that it is incumbent upon us to listen to what women have to say and to draw them into our decision-making process.

Numerous land-use systems have been researched in great detail, for example, in semi-arid locations and in the humid tropics. This research has revealed the interrelations that exist and the delicate nature of the balance in these systems.

Whole new systems have been developed for specific conditions. In other locations mixed forms of land use have been closely observed and further developed, for example, tree and shrub growing has been included in research programmes. Thus, in general, research programmes have been drawn up and carried out making much greater use of the farmers' knowledge than in the past.

Ecological awareness and thinking in terms of interrelations have now spread far and wide.

#### 7. Why has FSR often been criticised?

There are many areas of tension within the various fields of research, some of which are:

- Systems research is a long drawn-out process and is under pressure, therefore, from farmers to produce success and from financiers to fulfil their expectations. The farmers get tired of endless questioning; they want to see results.
- Because of our training, we tend to see components as interchangeable, and our technological training concentrates on individual items of technology. We are not trained in holistic thinking or working together in interdisciplinary groups.

- In their effort to produce even more precise documentation and analyses, many systems researchers spend all their time on describing systems without ever making concrete proposals. Despite a great deal of time and effort there are no tangible results.
- The right kind of institutional base for developing the interdisciplinary approach does not exist. Agriculturalists, ethnologists, ecologists, technical personnel for land and water management, animal and plant experts all operate in different institutes and may be dependent on various ministries.
- Cooperation between research and extension rarely functions well. For a long time advisers who felt abandoned by research have been carrying out their own limited research and experimentation programmes and today, now that research has discovered the farmer as an important source of information, they prefer to approach the farmer directly.
- Thus the advisers become communicators of solutions without having first examined the extension measures themselves. Their knowledge and good contact with farmers are not exploited by research.
- The short-term interests of farmers that arise from their personal preferences or their predicament are not compatible with long-term yield security (fire clearance - erosion; deforestation - climatic change). Their behaviour patterns are analogous to our own in industrialised countries (everyone wants his own car - air pollution - dying forests).

These examples are testimony to how little we have been trained to think in terms of systems and interconnections and how our behaviour is determined by very short-term benefits and convenience.

### 8. What conclusions can we draw for the future?

The systems approach is important and must not be ignored at any level - micro, macro or global. Even if the farmer is only willing or able to change his system little by little, we must not forget, when each new innovation is introduced, that we are dealing with a complex system of interrelations. Moreover, every single step in a new direction must be to the advantage of the farmer; otherwise he will refuse to comply. The most important factors are trust and cooperation between advisers, researchers and farmers. Above all, they call for understanding on the part of researchers and advisers of the existing farming systems and appreciation that they are the product of a long tradition and adaptation to the prevailing conditions. Only when they are fully cognizant of a system can they propose carefully considered changes.

Cooperation between research and extension is vital and could receive a long overdue boost from FSR.

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#### Compiled by:

Volker HOFFMANN, Tonino ZELLWEGER



**Selected project descriptions**

## **Agricultural extension in the Central Region of Togo – Strategy, content, methods, means –**

### **1. The basic problem**

The traditional cropping system in the central region is characterised by shifting hoe cultivation and fire clearance. The fields are cultivated for four years and then left fallow. This system is only stable if the population density does not rise above 15 – 20 people/km<sup>2</sup>.

The growth rate of the population is up to 13% per annum in some zones in the central region, where as well as the normal population increase there is a high level of immigration, especially of Kabyés from the north. In these zones the population density rises to 90 people/km<sup>2</sup>. According to the calculations of the Ministry of Planning, all the arable land in the central region will be under cultivation by 1995. A model calculation has shown that, if we assume soil fertility declines at 1% a year (a very low estimate), farm income will fall by 25% by the year 2000.

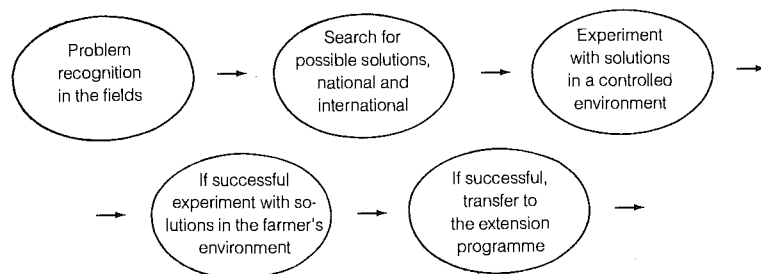
The character of the infrastructure is determined by the north – south axis Lomé – Dapaong. On this axis lie the most important markets, transport routes, Red Cross stations and schools. This pattern of infrastructure is very attractive and makes the population less inclined to move, resulting in long distances between the fields and the village. A journey of 12 km is quite common.

The majority of the rural population can neither read nor write. Literacy programmes in local languages are just beginning. The written language is French, which is only understood, however, by a few young people. Communication with the mass of the population and traditional decision makers through the medium of French is not possible.

### **2. Possible solutions**

We have tried to find long-term solutions in field studies with Professor Egger working on the development of ecologically based extension measures, E. Gabathuler on the extension system, Dr. Werth on the identification of target groups and target zones and Dr. Zeuner on the total project concept. This led to the long experimental programme Kazaboua, the creation of the CFSME extension system (→ A 8, → D 5, → D 6) and the media workshop and to the selection of four special zones in which to concentrate the initiative.

Extension content is determined by the following logical process:



### 3. Research

To work out the content of extension we have developed a small experimental programme that specifically addresses the most important agricultural problems. Taking the most serious problems of the central region as the starting point, the aim of the research endeavour is:

- developing measures to maintain soil fertility in both the short and long term (green manuring, improved fallow, rotations, cover plants, mixed cropping);
- devising a stable, permanent cropping system with trees integrated into fields (agro-forest system);
- introducing new leguminous crops (soya, cowpeas);
- improving the cultivation of yams and manioc.

The programme therefore comprises the following experiments:

- selecting the optimum amount of seed and deciding the best time to sow plants that will produce intensive fallow. *Crotalaria r.*, *Cajanus c.*, *Mucuna* and *Canavalia e.* have shown themselves to be suitable for this purpose;
- selecting trees that are suitable for an agro-forest system and meet the needs of the population – up to now 20 varieties have proved to be suitable. These include both fast and slow-growing trees for timber (e.g. *Cassia*, *Albizia*, *Khaya*), traditional harvest trees whose fruit, leaves and bark are used in the kitchen and pharmacy (e.g. *Parkia*, *Butyrospermum*) and fruit trees (mango, orange);
- selecting varieties of soya and appropriate cropping systems;

- selecting varieties of yam and techniques for applying the miniset method developed by IITA. In this way production costs should be reduced;
- selecting productive varieties of manioc.

The most promising methods are then tested in the farm situation under semicon-trolled conditions.

By using this approach the extension contents available in 1986 were:

1. agro-forest system;
2. mixed cropping with *Cajanus* – maize or sorgho;
3. soya cropping;
4. adapted land clearance;
5. improved storage.

### 4. Running a campaign

#### 4.1. Training

Once the annual plan has been completed and the teaching materials have been produced, the extension personnel are given their training.

Every extension year begins with the topic "awareness creation", followed by "cycle of nutrients" and "soil fertility". Then the annual programme is presented – also in picture form – and registration lists for the technical subjects on offer are made available.

Extension personnel and farmers are then trained shortly before the actual time of implementation. There are never more than four weeks between training extension personnel and putting theory into practice.

#### Sequence of events in a training cycle

Extension personnel are taught in 2–3 day courses about the content of a particular extension topic and how to communicate it.

The first step consists of working out together why there is a need for the topic at all (with the help of cards and pinboards). When giving instruction on improved storage, the starting point was "Traditional storage methods and their problems", so that we could then define accurately the benefits of improved storage.

Then the teaching material, a sequence of pictures with a written commentary, is studied in detail and, using the role play technique (farmer – adviser), each adviser

has to present the pictures himself. Whenever possible, aspects of the theoretical training are put into practice (for example, marking out contour lines for creating an agro-forest system). Finally the approach to be adopted in the village is discussed (target groups for particular topics, contacts, which people should be shown the topic presentation first).

The adviser then returns to his village and informs the village committee and the headman about what he has learned. He arranges with them the times and places for showing the series of pictures.

Presenting an extension topic with the aid of a series of pictures always begins with the question: "What can you see in this picture?" The adviser thus helps his audience to identify individual aspects of the picture and then to see the picture as an integrated whole. Interjections like: "Do you have this problem in your village?" raise the level of participation of the target group in working out the subject matter of the topic. At the end, the content of the pictures is summarised by one or more of the participants.

When an adviser presents a picture sequence for the first time, one of the training staff should be present and briefly interview participants afterwards to see whether the adviser succeeded in communicating his message.

When the topics of training are put into practice, close cooperation between farmers and advisers is essential; similarly, the supervision of advisers by senior staff is essential if mistakes are to be avoided.

#### 4.2 Evaluation/final celebration

Evaluation is a joint endeavour by farmers and advisers. After the extension topics have been put into practice, the results are examined by the process of evaluation. Evaluation takes place twice a year: at the end of the rainy season in the case of arable farming topics and in the dry season in the case of storage.

The aims of evaluation are:

- the exchange of ideas about agricultural problems and extension topics by farmers among themselves and between farmers and advisers;
- developing further the improvements made by farmers to extension topics;
- telling farmers how to improve their fields, if this proves necessary;

- congratulating farmers on their achievements by inspecting their fields and thus encouraging them to carry on their good work;
- identifying deficiencies in the adviser's work (was the message put across in the right way and at the right time?).

The evaluation committee comprises farmers from the villages in question and extension personnel. The evaluation process takes the following form:

1. devising an evaluation checklist in keeping with the criteria of success that were laid down at the planning stage and incorporated in training;
2. theoretical and practical training of advisers;
3. training those farmers in the villages who are to take part in evaluation;
4. all participants agree on a date for evaluation;
5. on the agreed day the criteria are gone through again by all those involved in the evaluation process;
6. on arrival at the field to be appraised, the criteria are read out and checked by the committee members;
7. if the layout of the field differs from the proposals in the extension topic, the following points are discussed with the farmer:
  - has he found a better solution?
  - did the information fail to get through to him properly?
  - were there other reasons?
8. the committee calculates the results of the evaluation, and if it is positive the farmer is congratulated on his field and the awards to the farmer and the village are made public;
9. in the evening the results are commented on over a calabash of millet beer.

At the end of the campaign all the villages in a canton organise a final celebration. There is eating, drinking, music and dance and each village gives an account of its activities over the past year. Different soya recipes are demonstrated and tasted by everyone present.

All successful farmers are awarded a certificate. The Prefect and DRDR Director take part in the celebration and congratulate farmers on their success. In this way, not only individual farmers but whole villages are encouraged in their work (the celebration is held in the most successful village in the canton).

### 4.3 Target group participation/village committees

From the outset the farmers take part in discussing the possible ways of solving their problems. The village committee represents all the farmers in a village and consists of the different tribal and age groups, both men and women, representatives of the different sections of the village, and the village headman. Topics discussed with this committee are:

- how the problems in the village came about;
- how they can be avoided in future;
- solutions proposed by the farmers;
- what jobs are to be carried out by the farmers, the village committee and the advisers when the solutions are implemented.

### 4.4 Stimulation

Small articles or non-material incentives are given to the farmers to encourage them to take part in the extension programmes. These incentives may take the form of a hand grinder, a jute sack, improved mango or best of all a machete. The value per farmer never exceeds DM 6. The incentive scheme is made known at the beginning of the campaign and the people are told that awards depend on the results of evaluation.

There is a collective award for the village that is based on the number of trees planted. If 2 000 trees have been planted, the village receives the equivalent of DM 120. With this money the village can finance anything it wants, for example cement to repair the school, a football, its contribution towards the construction of a well, etc.

The non-material incentives also play an important role, for example, certificates for the most successful farmers, selecting the most successful village as the venue for the final celebration, congratulations from prominent politicians, etc.

### 4.5 Materials – trees – tree nurseries

If extension theory is to be successfully put into practice, making and collecting the necessary materials must be started at an early stage. In particular, it takes more than a year to establish tree growing for the agro-forest system or the orchard round the house.

The plant material is largely cultivated in local, private nurseries. It is easy to find someone in the villages that do not run short of water in the dry season who will grow trees for the village and possible for neighbouring villages too. The prospect of cheap fruit trees in particular makes a tree nursery a very attractive proposition for all the villagers.

The project gives these village tree nurseries grow-bags, watering cans, seed if required, and a small reimbursement of costs. The nurseries sell the trees themselves. The long-term aim is that the tree nurseries should also take over the planning of tree production for their own village and those in the vicinity.

The advantages for the project are the low production costs compared with tree production in state nurseries and the fact that there are no distribution costs (lorries, fuel, management). Expertise in tree cultivation, husbandry and grafting is engendered and the skills remain in the villages. This means that there is a far greater chance of this campaign being continued when support by the project is withdrawn.

### 4.6 Data surveys

The department of monitoring and evaluation is continuously engaged in collecting data about farmers, cropping systems, rotations, yields, crop varieties, etc. On the basis of these data, decisions are taken regarding the content of extension work and other activities in the rural development project.

### 4.7 Annual planning

Establishing precise data for the coming year has proved to be very helpful. On the one hand, work within a fairly large department can be coordinated:

- who does what and when?
- what material has to be prepared?
- when must tree cultivation be started for the next campaign?

On the other hand, precise planning is essential for coordination between departments:

- when are field advisers free?
- when is the training centre occupied?

Objectives-oriented project planning (ZOPP) in conjunction with operational planning has proved its worth as a planning instrument.

**5. CFSME plus T & V**

With the implementation of the "nouvelle stratégie" of the "Ministère du Développement Rural", the CFSME extension method has been linked since 1986 with the training and visit system (→ A 9).

Aspects of T & V were adopted:

1. tightly organised fortnightly visits by advisers to the farmers and the fixed training sessions and meetings for advisers;
2. the phased training of extension personnel (from the specialist department to advisers with responsibility for a region and down to the advisers at village level). Thus the subject matter of training sessions has to be structured to fit into the pattern of the advisers' visits.

The practical, participatory teaching approach of CFSME was retained (→ A 8):

Awareness creation → training by means of teaching materials → stimulation → joint evaluation → final celebration.

**6. Teaching materials**

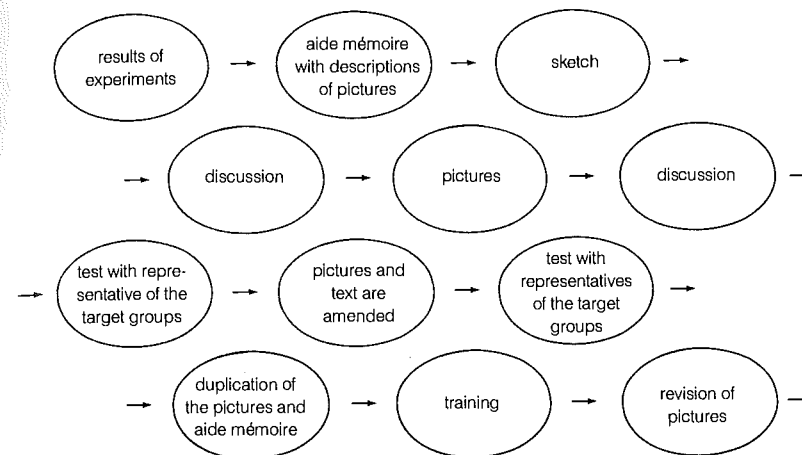
Once the results of an experiment are available – or from other sources like the plant protection service in the case of improved storage – an aide mémoire is devised for the picture sequence. It contains all the statements that are to be made to the target group. At the same time the pictures are categorised, and for every picture notes are drawn up on the details that will be mentioned (for example perspective, which culture, how many people, their clothing).

Sketches are made to accompany the aide mémoire, reproducing the most significant details of the picture. At this stage the results of this work are discussed for the first time with representatives of the target group.

The first series of pictures is worked out in its final form and discussed again in the wider group. The series is then tested (→ E 13), modified and tested a second time.

The pictures are then duplicated either manually (outlines drawn by hand using a light table and then coloured in), or by photocopying, screen printing or offset printing.

If any drawbacks are revealed in training or when the pictures are being used by advisers, or if new information comes to light, they are taken into account when the series is revised at a later stage.



The reader is referred to → G 9 for examples of picture sequences used in awareness creation and for training purposes.

**Source:**

Ingo BINNEWERG: Landwirtschaftliche Beratung, Strategie, Inhalt, Methode, Mittel. Zentralregion Togo, Sokodé, 1986

**Compiled by:**

Ingo BINNEWERG

## **Extension and credit in farm systems in the project: Kericho District, Kenya**

In the small-farmer District of Kericho (approximately 5 000 km<sup>2</sup>, 479 000 inhabitants, 31% farms under 2 ha), extension and credit were begun in 1963 and carried out by a supervised credit programme.

The demand on the part of the previously nomadic population became intense as a result of the activities in the project: operational plans were carefully drawn up, there was supervision and follow-up, data were collected continuously, and individual and group extension work was carried out on model farms.

The systematic drawing up of operational plans for seven types of farm had an indirect effect on the advisers: in the project they learned to plan a farm stage by stage. With the use of figures, felt boards and scale models of farms, extension work was therefore improved in a planned way. Extension was programmed by a "Farm Management Bureau" with a staff of 25 advisers and 74 assistant advisers, i. e. approximately one adviser to 1 200 farms.

The advisers were responsible for all information and all decisions; the foreign personnel in the project and the senior Kenyan advisers restricted their activities to contacting farmers, training, bringing out farm-management handbooks and brochures, running short courses in the training centre and working out operational plans.

The advisers first made one or two initial-contact visits and then proceeded to giving group extension and arranging demonstrations. For demonstration fields ordinary farmers were preferred to the chiefs, since they had no significant social function and operated their farms for the most part on their own. 500 – 1 000 people often gathered to watch demonstrations.

The farmers' main access to extension was through the regular farm visits by the advisers. But African and foreign experts also drove through the project territory at least twice a week to hold discussions. At the end of the working week, there was always a joint discussion of problems and successes. On these occasions, any personal difficulties encountered by advisers were discussed as well.

The formal organisation of extension and credit was such that an entry in the land register served as security. The programme was restricted to about 50% of the farms. Credit was granted in the form of goods (four parts productive, one part unproductive, e. g. fences) with a 5-year repayment period. The interest rate was 9% and the inflation rate 20%.

The farm systems were converted to include maize cropping with tea cultivation, pasturing/cattle keeping and pyrethrum cropping. Three basic constraints restricted the development of the programme:

- For small farms with up to 1.9 ha there were no entries in the land registry.
- Cash surpluses in the small farms (up to 1.7 ha) were sometimes unattractively low (without credit 111 shillings, with credit 176 shillings) compared with those in large-scale holdings (e. g. 500 shillings without and 1 800 shillings with credit).
- The density of advisers was too low to meet the demand at the required level of activity (one supervisory visit to each farm every week).

#### Bibliography:

Extension Services, Ministry of Agriculture, Kenya: Farm Management Information, Kericho District. Nairobi 1973

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Herbert STRÖBEL, et al.: An economic analysis of smallholder agriculture in the Kericho District, Berlin 1973

Herbert STRÖBEL: Entwicklungsmöglichkeiten landw. Kleinbetriebe, Kericho District, Kenya, unter besonderer Berücksichtigung des Einsatzes von Kleinkrediten mit Beratung. Munich 1976.

#### Compiled by:

Gerhard PAYR, Rolf SÜLZER.

## Extension services with the aim of improving the food situation in the project: Paktia Province in Afghanistan

From 1965 the focal point of extension work in this regional project became the creation of a network of village advisers. The region, consisting of about 18 000 km<sup>2</sup> with approximately 2 500 km<sup>2</sup> of agricultural land, produced some 0.25 million t of grain after deduction of storage losses, i. e. about 180 kg per head of population per annum. The group of advisers decided on direct extension work as a way of improving the food situation, and the region was divided into 8 extension territories, each with 2 500 large-scale holdings (with about 20–80 people in each). Each extension territory was subdivided into 12–15 village extension areas, each with 4 500 inhabitants and to be supervised by one village adviser. Four or five of these village extension areas constituted one extension district.

The village advisers were recruited in the extension territory. Applicants had to fulfil certain conditions: they had to be able to read, write and do arithmetic and they also had to have in writing the support of the majority of the village mayors in the planned village extension area. A monthly salary comparable to that of a primary school teacher plus payment in kind was offered as an incentive. The selected candidates were then given training for six weeks in the slack part of the year (winter courses). They were repeated every year as refresher courses.

Extension work was carried out on a 6-day cycle (for example, seed, fertilising, demonstrations, river damming, dealing with applications for the services of the project). After five days working in the villages, accounts were drawn up on the sixth day in the local extension centre, a written report and a work plan for the coming week were handed in and gone through with senior extension staff (a German agricultural expert and an Afghan colleague).

Both the systematic division of the region into smaller units and the staffing of the village adviser network with people who had grown up with the special characteristics of the area proved to be a viable concept. Difficulties in carrying out the concept arose mainly because:

- there was no verifiable information about yield ratios and other important quantitative indicators;
- due to the social structure, the village advisers were obliged to seek contact with prominent people. The specific development of small farmers therefore tended to be neglected;
- the project took over far-reaching executive powers that limited the authority of the Afghans;



- the adoption rate and introduction of high-yielding varieties of wheat slowed down and finally came to a halt for financial, social and presumably also cultural reasons;
- the supply of production means and credit was only guaranteed in the early days of the project; from 1970 the supply fell short of the total demand in terms of both quality and quantity. Without mineral fertiliser, the yields of the new varieties were lower than those of local varieties;
- extension work was finally taken over by the Afghan government, the network of village advisers was abolished and they were replaced by college graduates who had little practical experience and few technical qualifications.

In the meantime, the war that has been going on for years has interrupted all development efforts and has presumably wiped out the last vestiges of past project work.

#### Bibliography:

A. Ghafar LAKANWAL: Das Übernahmeverhalten paschtunischer Landwirte in bezug auf produktionstechnische Neuerungen (Saatgut und Düngemittel). Eine empirische Untersuchung in drei Dörfern des östlichen Beckens von Khost/Afghanistan. Unpublished thesis, Hohenheim, 1974

A. Ghafar LAKANWAL: Situationsanalyse landw. Beratungsprogramme in Entwicklungsländern. Sozialökonomische Schriften zur Agrarentwicklung, Band 30, Saarbrücken, 1978, especially pp. 106 – 194.

#### Compiled by:

Rolf SÜLZER, Volker HOFFMANN

## Self-help groups and associations among the TIV in Nigeria

Since 1950, cooperatives and credit associations that are based on traditional self-help groups have been founded at tribe level in Nigeria (Benue Plateau State, the TIV tribe). There is a tradition of voluntary associations of this kind among young people and both men and women, an example being the "ton" in Mali (groups of young people who do work for the benefit of the whole community). Both men and women frequently organise themselves in savings clubs of 10 – 20 people.

In the case of the TIV, the savings and credit groups are called "Bams". The importance of women in the economic system is reflected in the structure of the "Bams", most of which are led by women. TIV women keep surpluses of yams so that they can sell them when there is a shortage and then act as money lenders. These "Bams" have a democratic structure, which is illustrated by, among other things, annual elections. Between 1950 and 1974, the subsistence economy in the Plateau region developed into a market economy in that it supplied the Nigerian market with yams and rice. This development was based on 5 000 "Bams" comprising about 300 000 people with their own extension service and cooperative.

As in the case of the cacao farmers in Ghana this development was initiated by the local leaders themselves. One of them had travelled, and he took the opportunity to collect information on banks and credit systems. He then transferred their basic features to the traditional social structure. Local leaders held several meetings and founded a "Bam" (credit group), bearing in mind the following points:

- (1) The practice of women saving money by selling yams should be incorporated as the savings component of a "Bam".
- (2) The tradition of electing local leaders should also apply to the "Bam".
- (3) The high level of discipline and strict social structure was regarded as sufficient to guarantee repayment.
- (4) The "Bam" should be created for one year only, so that families would not become dependent. At the end of a year they could decide on a new "Bam".

The group is reconstituted every year (with about 60 – 100 members). At the first meeting it decides on its internal structure. There is normally a chairman, secretary, treasurer, finance committee and a fixed place for arbitration in the case of disputes. All posts are filled by election. The members decide on the frequency of meetings (mostly fortnightly) and the level of deposits (between 0.60 and 60.— DM). At each meeting they collect the savings deposits that are eventually to be paid out at the end of the year. Then projects are thought out, loans granted and

payment difficulties discussed. The average amount of money that passes through a "Bam" in the course of a year is about 30 000 – 40 000 DM.

A TIV adviser then put forward the idea of making these "Bams" into permanent institutions that would help to raise production levels. The council of the TIV agreed with his proposal and founded a Farmers' Association that had 60 members in 1966 (1968: 1 000 members; 1974: 33 000 members; monthly contributions: 0.30 DM).

The main activity taken over by this Farmers' Association was extension work that the national extension service was not able to carry out itself (each state adviser had a work load of 1 650 farms).

The first recommendation was the introduction of fertiliser for rice and yams. The TIV adviser brought together the chairmen in the Farmers' Association for a demonstration and set up experiments on their farms.

The success of these experiments gave the chairmen the incentive to develop a distribution system for fertiliser and to decide with their members on distribution points and the farmers who were to be in charge.

After this initial campaign, they decided to transfer the Farmers' Association to the village level. The village cooperatives were in frequent contact with the advisers, with weekly meetings and discussions of new methods and evaluation of experiments with the specialists of the state extension service several times a year.

Important conditions for success are evidently:

- a functioning social structure that puts obligations on the individual;
- the confidence to achieve solutions independently without waiting to be told by the government what to do;
- a dense communications network ("Bams", village cooperatives, village councils, etc.) that can spread an innovation quickly;
- the ability to set up an effective infrastructure;
- direct control of work in the cooperative by farmers or their wives;
- actively seeking out the extension service, checking but also facilitating its work;
- joint discussion and evaluation of the programme at least once a year.

**Compiled by:**

Gerhard PAYR, Rolf SÜLZER

## The reorganisation of agricultural extension in the Atlantic Province of the People's Republic of Benin

The People's Republic of Benin has created regional development authorities in each province (CARDER = Centre d'Action Régional pour le Développement Rural) to promote integrated rural development. The CARDER de L'Atlantique is supported by a GTZ project.

It was realised in 1983 that the problems in agricultural extension were so serious that a thorough reorganisation was imperative. In the meantime, this reorganisation has been successfully carried out, and elements of the "Training and Visit" scheme have been incorporated (→ A 9). In our opinion, the success of the undertaking shows how similar problems can be solved elsewhere.

### 1. Problems of the old extension organisation

#### A. Target groups

- Restricted by national policies to production cooperatives;
- Extension compromised by jobs unrelated to extension;
- The foundation of new cooperatives is on the decline; many were founded after the revolution for political reasons but were not economically viable.

#### B. Field advisers

- The staff of the CARDER was continually changing, with new personnel coming from:
  - a) the university;
  - b) disbanded state companies;
- In December 1983 there were 200 field advisers and 175 cooperatives.
- There were too many extension tasks and too many tasks not connected with extension (9 departments all wanting to make use of the selfsame adviser for their own purposes).
- Sometimes activities were incompatible.
- The programme of work was not structured and therefore not controllable.

## C. Extension topics

- Too complicated and not specific enough for agricultural extension and often not understood by the field advisers.

## D. Inequitable allocation of duties

- Numerous "sous-secteurs" without target groups (cooperatives);
- Concentration of most ad-hoc activities on a few "sous-secteurs".

## E. Low motivation on the part of extension workers

- Poor salaries;
- Inadequate transport and operational aids;
- Unsatisfactory level of support, lack of supervision, control and acknowledgement of achievements.

## F. Deplorable relation between expenditure and results

- 200 field advisers supervised 175 cooperatives = approximately 2 000 farms = approximately 1 000 ha.
- Compared with costs of 560 000 DM, a verifiable rise in maize production of about 1 000 t = approximately 420 000 DM.

## 2. Aims of the reorganisation

1. To relieve the burden of everyday work at all levels;
2. To encourage field advisers to work more efficiently;
3. To clearly define everyone's:
  - areas of responsibility
  - areas of activity
  - jobs
  - supervision structures
  - extension and contact partners.

The above as contributions to the overall goal of: "increasing production, especially in small and medium-scale farms".

## 3. Principles of the new extension organisation

- A. Agricultural extension centres (CVA) established in the "sous-secteurs" and supplying or arranging all the services of the Carder; set up as near to the farmer as possible;
  - average distance of CVA from a farmer = 6.5 km.
- B. Separation of agricultural extension from advisory work in cooperatives;
  - limiting the activities of field advisers to cropping issues and raising the number of advisers to cooperatives, responsibility for all other aspects of extension remaining with the specialist at sector level.
- C. Reaching about 15% of the target population, → advising individual farmers organised in groups (extension contact groups).
- D. Structuring the work-flow at all levels to make the execution and supervision of jobs easier;
  - fixed weekly plan of work.
- E. To make it easier for the farmer to adopt extension topics;
  - breaking them down into steps that are attractive for the farmer and have a logical order.
- F. To ensure the dissemination and communication of extension topics by the field advisers;
  - converting them into weekly tasks for the field advisers;
  - provision of weekly further and advanced training.

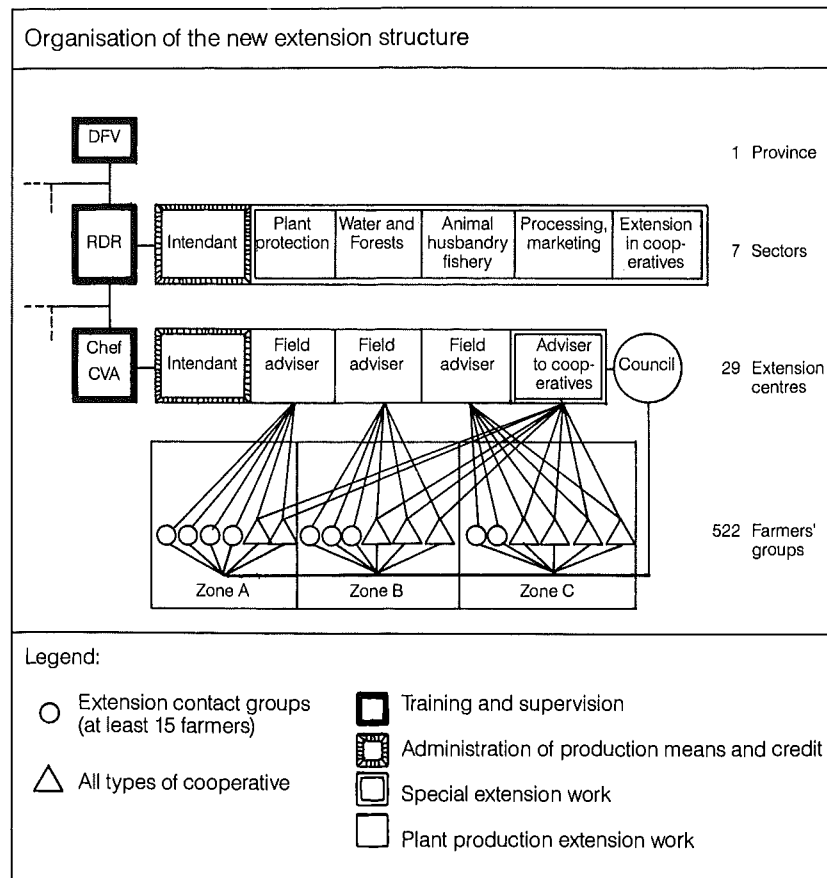
## 4. Organisation chart and job allocation in the new extension structure

→ Figure 1 shows the new organisational structure. Starting at the bottom of the chart with the extension contact groups, we describe the most important functions.

## A. Extension contact groups

In the new structure of extension, there are 522 groups of which 174 were already existing cooperatives. After the CVA territory has been divided into three zones (1 per field adviser), the people are informed about the new extension approach, and at meetings in the villages and hamlets the selection criteria are explained. The field adviser establishes who is interested and the CVA team then decides, using the following criteria, who is to be in the group:

Figure 1:



1. Obligatory criteria

- a) Occupation: the candidates must be farmers
- b) Land: the candidates must have land, either leased or in family ownership
- c) Motivation: the candidates must be interested enough in working with a field adviser to meet him once a week

2. Desirable criteria

- a) Organisation: when creating groups, preference may be given to existing associations, like "tontines" (savings clubs), "adjolu" (communal work), "tam-tam" (folk groups), "hameau" (hamlets, etc.)
- b) Homogeneity: the aim when selecting groups should be the maximum economic and social homogeneity

B. Conseil Consultatif = Consultative Council

This council consists of 1 elected representative from each of the 6 extension contact groups per field adviser and the functionaries of the CVA = 24 members. It convenes every three months and is concerned with:

- analysis and evaluation
- planning;
- preparations for the following season and important campaigns like marketing maize, inoculations, literacy, "journée CVA" = celebrations at the extension centre with exhibitions and competitions (→ D 9).

C. AVA = Agent de Vulgarisation Agricole = Agricultural Field Adviser

- passing on the technical recommendations in his weekly programme regarding plant production;
- calling in specialists in the sector for all other problems and introducing them to the extension contact groups (g. c. e.);
- communication between contact groups and the stores manager at CVA;
- participation in the weekly discussion in the CVA to evaluate and prepare work and to participate in further training;
- writing reports on his work.

D. CC = Conseiller Coopératif = Adviser to Cooperatives

- establishing the need for credit and subsidies from the village development fund and reporting this information to his superior;

- supervising all cooperatives in the catchment area of CVA regarding all activities except plant production, the emphasis being on management;
- advising the processing cooperatives on technical matters.

#### E. Intendant = Manager of Finance and Stores

- all work connected with subsidies and credit issued by the village development fund;
- administering the stores of production inputs in the CVA;
- establishing the exact requirement of production means in the CVA's territory, ordering them from the sector, distributing them and organising payment by the farmers;
- passing on information: he is always on hand and knows about visits by CVA members; he is a channel of communication.

#### F. Chef CVA = Manager of an Extension Centre

- supervises the work of his staff in the CVA;
- weekly further training of CVA personnel;
- participates in weekly staff meeting at sector level;
- writes reports on operations.

#### G. Spécialistes/Chefs Sections = Special Advisers

- carrying out official state tasks, special campaigns and specialist advisory work with contact groups;
- present at the weekly staff meeting with the managers of centres and support for the RDR;
- proposing and preparing special campaigns at extension centre level for the RDR.

#### H. Intendant = Manager of Finance and Stores in the Sector

- ensures an adequate supply of production means in his sector;
- administers the stores at sector level;
- investigates and lists the requirement of production means;
- administers finance;
- assists with the marketing campaign;
- produces reports on operations.

#### I. RDR = Responsable pour le Développement Rural = Head of Agriculture and Rural Development in a Sector

- supervises the special advisers and managers of extension centres in the field;
- ensures that managers receive further training;
- decides with the managers what extension work is to be carried out in the following week;
- takes charge of the supply of production means;
- examines applications for credit and subsidies;
- supervises the issue and repayment of credit;
- writes reports on operations;
- supports the Prefect and the political institutions;
- takes part in the monthly discussions at the top level of management.

#### J. DFV = Division Formation et Vulgarisation du CARDER = Department of Training and Extension (at Province level)

- training and further training of extension workers in the whole province;
- supervision of extension work;
- deciding on extension measures and the methods of delivering them;

- providing extension aids (technical brochures, teaching materials, demonstration aids);
- supervising central demonstrations;
- coordinating activities with the other departments of CARDER.

**5. Regular weekly plan of operations**

The outline programme in → Figure 2 applies to the whole year. Deviating from this programme should only be allowed when absolutely necessary and with the

Figure 2:

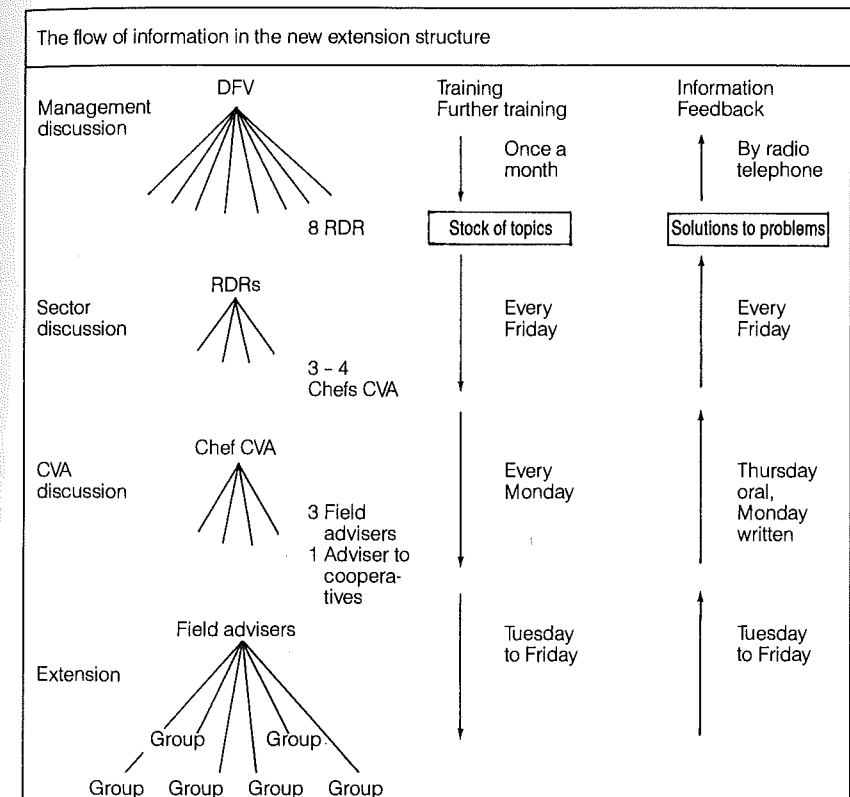
Model outline programme for planning operations over one week					
	Monday	Tuesday	Wednesday	Thursday	Friday
RDR	Office	Office	Office	Office	Office
	Committees Policies	Supervision of Chefs CVA	Committees Meetings	Supervision of Chefs CVA	Sector discussion
Special Advisers	Office or discussions	Field visits by request or according to their own monthly programme			Sector discussion
Chef CVA	CVA discussion	Supervision of advisers in the field			Sector discussion
	Further training of advisers				
Advisers to co-operatives	CVA discussion	Cooperative 1,2	Cooperative 3,4	Cooperative 5	Cooperative 6
	Further training Discussion in the Sector			Office	Held in reserve
Field Advisers	CVA discussion	Visits to groups 1,2	Visits to groups 3,4	Visits to group 5	Visits to group 6
	Further training			Office	Held in reserve
	Office				

full knowledge of the Intendants. Thus every single member of the organisation knows what he has to do and where he has to do it. Random checks can easily be carried out on all personnel. In their capacity as supervisors, senior staff have regular on-the-job contact with workers in the field.

**6. Continuous flow of information in both directions (oral and written)**

In no case should it take more than a week to deal with a problem, since a regular flow of information is guaranteed by the organisational structure shown in → Figure 3. Efficient top-level management is only possible if there is a system of feedback that functions without disruption.

Figure 3:



7. Planned order of topics for plant production

For plant production a sequence of topics is planned that builds up over 3 years and aims to achieve the maximum diffusion. This sequence is shown in → Table 1.

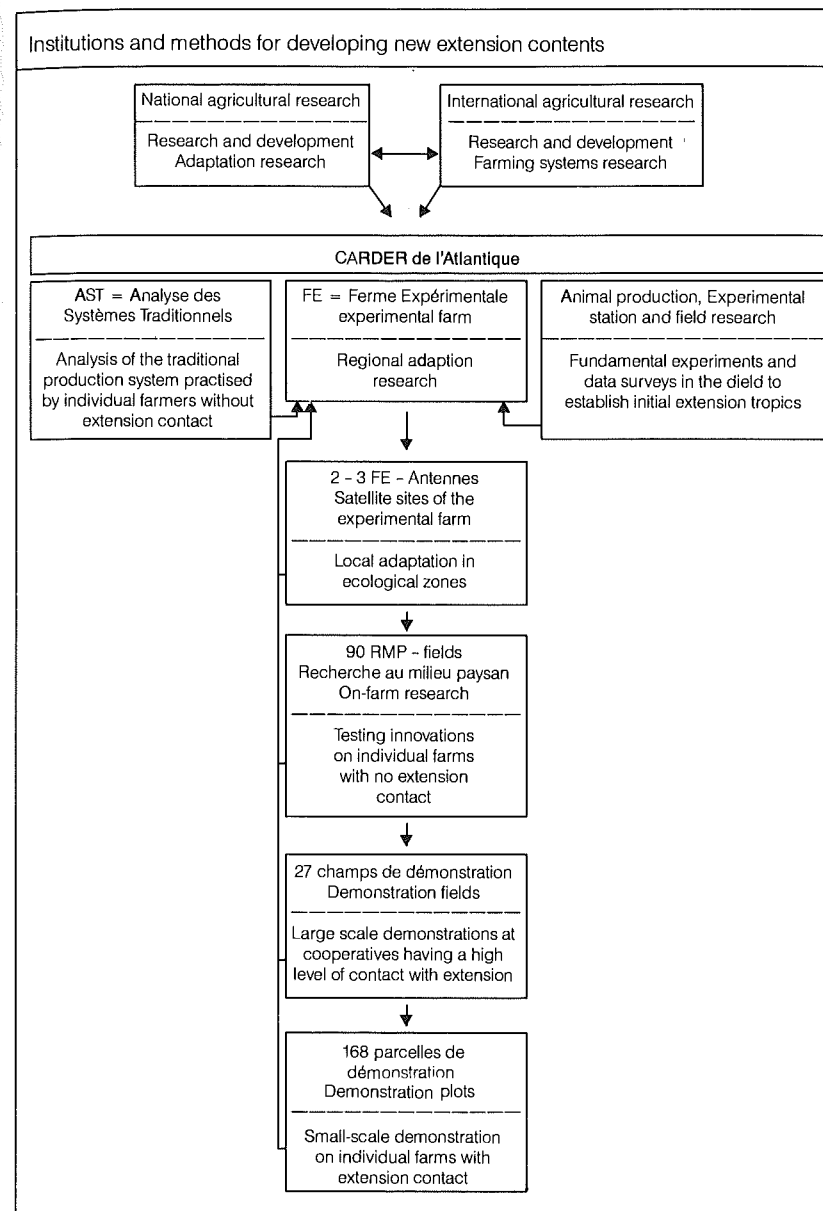
Table 2:

The scheduled order of topics for plant production		
Year	Topic	Aim
1	Mineral fertiliser, spray insecticide on beans, improved seed for maize and beans...	To gain the confidence of the farmers by addressing a few topics that lead to a definite increase in yield and whose effects are clearly visible. Adoption is also made easier by credit for production inputs to accelerate the diffusion process.
2	(Mineral fertiliser, seed) rotation, green manuring, improving the fallow, yam cropping...	To diversify the topics of extension and to introduce more complex topics.
3a	(Mineral fertiliser, seed) rotation, diversifying cropping, green manuring, improving the fallow, rows of trees and hedges...	Concentration on ecological topics that stress the maintenance of soil fertility and other essentials of production.
3b	Ox teams, grain hopper with fumigation facility	To introduce topics that call for high investment and therefore high levels of credit but also promise high profit from rationalisation as an additional incentive to adopt the ongoing innovations.

8. The development of new extension topics

Since it soon became apparent that the work could not be carried out by the national and international research centres, a whole range of methods and institutions was created in stages to devise new extension measures in CARDER de l'Atlantique. Ideas on farming systems research and on-farm research were the guiding principles as the research and development initiative was created (compare → A 10). In → Figure 4 we see the stage reached by 1986.

Figure 4:



9. Further development of extension methods

Just as the topics for the farmers should develop from simple advice showing quick returns to complex questions, extension methods also undergo a change.

At the beginning, clear technical information and simple weekly instructions are enough. With this approach the aims of extension in the first year can be attained, and it is in keeping with the field advisers' level of training. But this method becomes less and less suitable as the target groups themselves change in the course of time. It then becomes essential to give intensive training and careful attention to approach if the communication of extension is to be improved. → Table 2 shows the main development of method.

Table 2:

Further development of extension methods	
From → To	
Simple breakdown of topics to produce a rapid increase in yield	Holistic treatment of complex problems to maintain soil fertility and ecological equilibrium
From → To	
Simple recipes and directives (Do this! Leave that!)	Awareness creation, joint problem analysis and basic technical training to gain deeper insight into problems and solutions
From → To	
"Fiches techniques" = technical leaflets for advisers and oral communication of topics	Feltboard picture series created specifically for farmers to encourage dialogue and increase participation
From → To	
Conseils Consultatifs = councils with very limited decision making powers	Creating a higher level of formal participation and continuing decentralisation of the CARDER hierarchy

10. Requirements of materials and infrastructure

1. Buildings

- a) Required: 29 storerooms  
29 CVA buildings with 2 offices, 1 room for meetings
- b) Already available: 16
- c) New buildings: 13
- d) Converted buildings: 6

2. Furniture

- a) Required: 5 tables, 10 chairs, 10 benches (per CVA)
- b) Purchased: 145 tables, 290 chairs, 190 benches

3. Materials:

- a) Required by CVA: 1 pair of scales (300 kg), 1 pair of scales (20 kg), 3 ULV sprays, 1 backspray, 1 board with felt reverse side, 1 seed-dusting drum
- b) Purchased: 29 large scales, 24 small scales, 77 ULV sprays, 29 backsprays, 29 boards, 29 seed-dusting drums

4. Vehicles

- a) Required: RDR: 7 cars, 7 mobylettes  
Special advisers: 35 motorbikes  
Intendants in the sectors and the CVAs: 36 mobylettes  
Chefs CVA: 29 motorbikes  
CC, CVA: 29 mobylettes  
AVA, CVA: 87 mobylettes
- b) Purchased: 86 mobylettes (plus regular purchase of spare parts for all vehicles)

5. Introduction of primes/indemnités

= a bonus system + reimbursement (especially subsistence and petrol costs)



**11. Staff requirements**

→ Figure 5 shows the staffing plan. The result is selection, transfer or dismissal of 50 staff by the ministry.

Figure 5:

Staffing plan for the new extension structure	
<b>1. Requirements</b>	
a) in the 7 sectors	51 7 RDRs, 7 Intendants, 35 special advisers
b) in the 29 centres	174 29 managers, 29 Intendants, 87 field advisers, 29 advisers to cooperatives
	—
	225
	==
<b>2. Existing establishment</b>	
a) in the 7 sectors	7 RDRs 7 Intendants 24 Special advisers
b) in 35 sub-sectors	35 Chefs sous-secteur 117 Chefs centre (including 30 female advisers)
c) Others	70 former workers from disbanded state companies (SOBEPALH, SONIAH) 15 available at headquarters level
	—
	275
	==
<b>3. Balance</b>	
Available	275
Needed	225
Surplus 50	

**12. Cost of the new extension system**

In the first 26 months of operation the new extension system cost DM 625 000 per annum (→ Table 3). However, these figures have little meaning unless we put them into a comparative context.

Table 3:

Total cost of the new extension system over 26 months (from 10/1983 – 12//1985 in DM)			
Donors	Investment	Operating costs	Total
RPB		994 800	994 800
FRG	343 000	84 500	358 500
Total	343 000	1 010 500	1 353 500

What is perhaps more interesting is the "unit cost" per contact between a field adviser and a group member, which is shown in → Table 4. Organisations whose bookkeeping enables them to calculate such a figure can make their own comparisons. The fact that the cost per contact by an adviser fell by about a third between 1984 and 1985 can be explained by the number of extension contact groups rising from 4 to 6 after the system had been introduced and the teething troubles had been overcome.

Table 4:

Annual "unit costs"		
	1984	1985
Running an extension centre CVA	20 356	23 205
1 contact between field adviser and group member	2.70	1.84

**13. Success of extension: major campaign – maize**

One year after the new extension system had become fully operational, a follow-up evaluation study undertaken by management at Province level of 624 farms (of which 234 were members and 390 non-members of extension groups) showed

how attractive the innovations were as soon as improved seed had been adopted (→ Table 5). It also revealed how cost-effective the extension input was even in the first year in respect of maize, which as the main crop occupies some 90% of the arable land in the Atlantic Province (→ Table 6).

Table 5:

The yield potential of innovations (on-farm measurements)		
Method	Av. yield in kg/ha	Av. yield increase in kg/ha
1. Traditional cropping, broadcast sowing and untreated local seed	1 115	
2. Row seeding, weeded twice, untreated local seed	1 280	165 = 15%
3. Improved seed, treated + 2	1 629	514 = 46%
4. Improved seed, treated, mineral fertiliser + 2	2 916	1 287 = 115%

Table 6:

Production increase achieved by adopting innovations							
Innovation, Method	Direct effect on extension farmers			Indirect effect on non extension farmers			Total effect in t
	Area	Adoption rate	Production increase	Area rate	Adoption increase	Production	
2.	11 500 ha	13.5%	256 t	66 650 ha	—	—	256 t
3.	11 500 ha	19.0%	1 647 t	66 650 ha	7%	2 398 t	4 045 t
4.	11 500 ha	6.25%	925 t	66 650 ha	0.5%	429 t	1 354 t
<b>Total</b>	—	—	2 828 t	—	—	2 827 t	5 655 t

The extra return for the farmers thus works out at  $5\,655 \text{ t} \times 60 \text{ FCFA/kg} = 339\,300\,000 \text{ FCFA}$ . This equals 380% of the annual cost of the extension system (89240800 FCFA), ignoring the results of the short season! And this was achieved after just one year with the new organisational structure. By increasing the number of extension groups by 50% in the following year (from 4 to 6 groups per field adviser), a still better relation between costs and returns was created.

This balance improves only slightly as more extension recommendations are adopted. In the future we can expect the cost effectiveness of the extension input to increase steadily because innovations affecting maize may well be taken up more and more spontaneously, so that no extra extension costs are incurred. Only the services for the purchase and sale of seed and mineral fertiliser and the marketing of maize increase more or less proportionately to the adoption of innovations.

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**Compiled by:**

Volker HOFFMANN

## Minka – the evolution of a peasants' newspaper in Peru

We now show the lessons learned from producing a newspaper for farmers that was intended to back up improved agricultural extension in the Andes in Peru. Our intention is to draw attention to the methods that were found to be effective but also to the mistakes that were made, so that the reader can avoid the same pitfalls.

### A. Evolution and aims

Since 1979 the group "Talpu" has been publishing the newspaper "Minka" at three-monthly intervals for the farmers of the Mantaro Valley in the central highlands of Peru. "Talpu", which in the Huanka language means "to sow", is one of the regional, non-governmental organisations that was founded in the 1970's to compensate for the lack of state development aid for farmers. A characteristic of the "Talpu" group is their critical attitude to conventional development policy and their search for alternatives, which has to be seen in the following context:

- For 25 years the official Peruvian extension service had little success in disseminating and implementing development models and extension methods that had been applied worldwide.
- Between 1968 and 1975 the extension service was replaced by an ideological, state-run system with the aim of mobilising farmers and integrating them in a national modernisation process.
- Since the end of the 1970's foreign extension models have again been applied.

Despite three decades of intensive extension work, the rural population has hardly been touched by innovations. At the same time poverty and social disintegration have increased.

Because of this state of affairs, "Talpu", a registered association of ethnologists and art teachers, resolved to support agricultural development by means of research and counselling and to encourage initiative and creativity in the peasant population. This aim was the product of the debate on the role of technology in rural development aid, which is summarised in the first issue of "Minka".

“The technology that is still being supplied in rural communities ignores the collective efforts of farmers and only serves to exacerbate the structural, economic and political crisis. We, on the other hand, show that alternative development can be achieved by mobilising the technological and social forces that have been shaped by experience in farming communities” (Minka, No. 1, 1979).

### B. Why was Minka necessary?

The debate focussed attention on one of the obstacles preventing the development of small farmers, namely the lack of technical information or the spread of useless information. “Minka” (in Huanka: “work for the community”) intended to remedy this deficiency. The newspaper takes account of the following features of the population in the Mantaro Valley:

- About half (200 000) live in the countryside.
- The livelihood of these highland farmers is based on a combination of commercial and subsistence agriculture, cattle rearing and trades. Farm incomes are supplemented by men leaving to work in the mines or in the capital, Lima.
- The social structure of the rural population of the Mantaro Valley comprises both village communities (312 in all) and extended families.
- 70% of the rural population have attended school and can read and write (according to the official statistics).
- The rural population are either bilingual (Huanka and Spanish) or have Spanish as their mother tongue.
- The majority of the population have a high regard for the written word, like the Bible or the laws. For example, a written record of the minutes of all village meetings is kept in the village register and signed by everyone in attendance.
- Cultural features like regional costume, skilled handicrafts and traditional celebrations are important aspects of life.

### C. The first edition, a clear failure

The first “Minka” employed the following ideas and methods:

The title page → picture 1 has five messages:

1. dyeing with alder
2. sowing vegetables
3. more milk for my baby
4. layout of a house
5. the natural cycle

The following reactions of farmers to the title page were recorded:

- “All very interesting, but which is the most important?”
- “Who is that working, where is it, what is he doing?”
- “What are those clocks at the end supposed to mean?”
- “Who is that on the photograph?”



The article: “Dyeing with alder”, → picture 2, is a set of instructions, logically ordered:

- A. proportions of dye and wool
- B. production of the dye
- C. preparation of the wool
- D. dyeing
- E. achieving the required depth

Farmers' reactions:

- “How does it work? How are we supposed to read that?”
- “Where does it begin?”

The article: “More milk for my baby”, → picture 3, was in the form of a comic strip. It shows a peasant mother who is afraid that her newborn son could die like her first child. In the dialogue with her husband, they both state that her sister has very healthy children. The following day the sister comes and says: “You haven't got much milk because you are too weak. You must eat meat and eggs and drink milk”. And the conversation continues like this. The sister, who is obviously to be emulated, first points out that everything the inexperienced mother is doing is wrong and she then informs her how she should feed her child properly and what food she should give it.

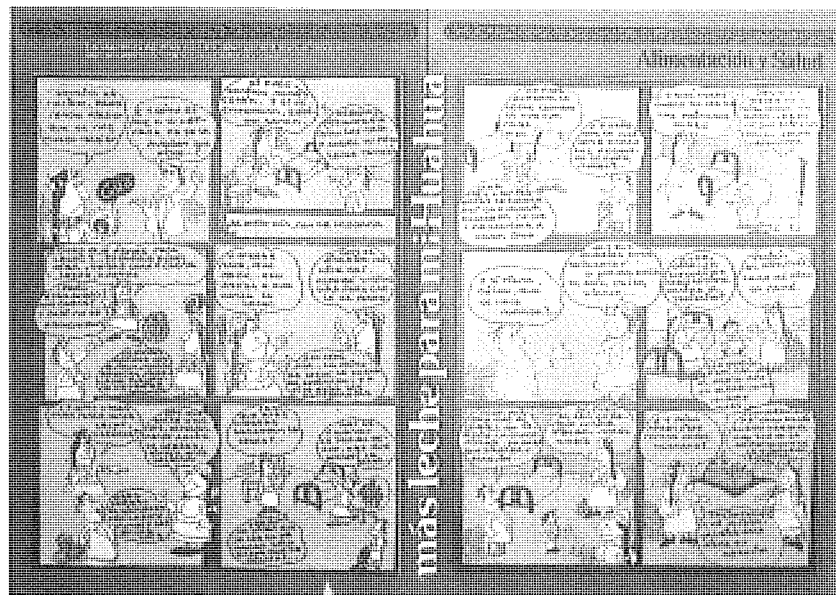
Farmers' reactions to this comic strip:

- “We are not so stupid that we would treat our children like that.”
- “And we don't look funny like them, either.”

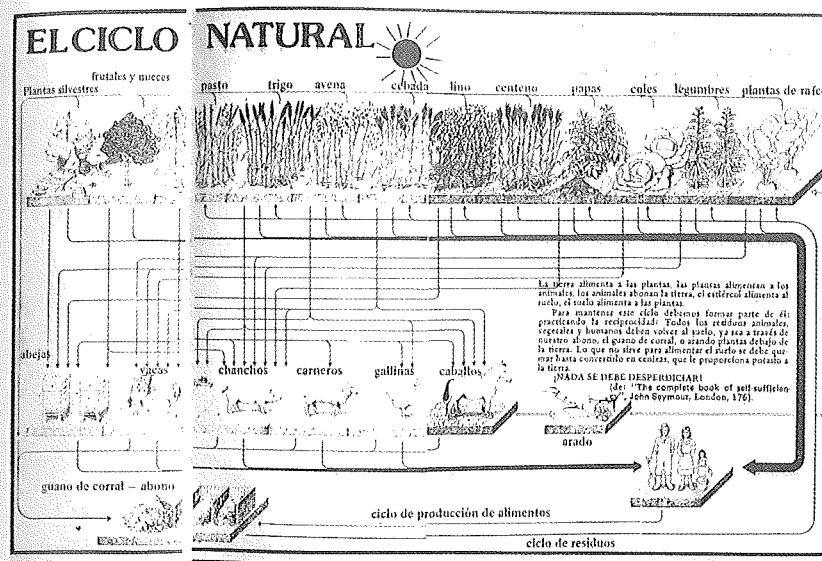
Picture 2:



Picture 3:



Picture 4:



The drawing of the "natural cycle", → picture 4, reproduces on a reduced scale an illustration by the English author John Seymour, and using thick and thin arrows it shows the interaction between plants, animals and human beings.

All the farmers interviewed found this drawing utterly confusing.

The article: "Layout of a house", → picture 5, suggests how farmers' houses can be improved by planning, the main considerations being how much space families need, the number of bedrooms, size of the kitchen, arrangement of the furniture, cupboards and doors. These features are illustrated in sketches drawn to scale.

The farmers made comments like:

- "Our houses don't look like that."
- "If we want to build our own houses, we don't need to draw pictures. We know what to do and where and how."
- "Where is the cattle shed?"
- "We only need one bedroom."

- "The thing that really matters is organising help by the rest of the family, not drawing pictures."

Analysis: the basic mistakes

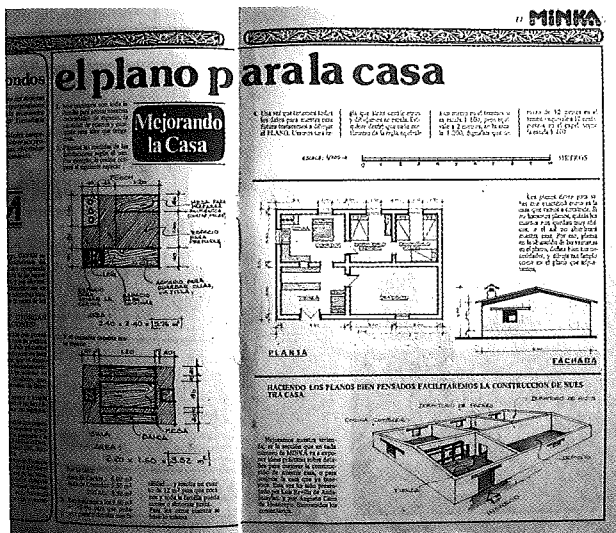
By analysing the farmers' comments and thinking about the issues, the "Talpu" group (editors, graphic artists) were able to identify basic errors of approach.

The first "Minka" paper was one-sided in its choice of topics and style of illustration.

Even though the subjects dealt with were of general relevance to farmers, the actual choice and treatment of topics were determined by the expertise and the criteria of urban professionals. This is why some articles read like lectures instructing the farmers how to grow vegetables, feed children, plan houses, dye wool and interpret nature.

The graphics were based on such conventional illustrative devices as arrows, a work process shown in separate stages, house plans, scale drawings, sketches and comic strips that were alien to the farmers and prevented them from understanding the messages. The frequently used comic strip called forth a hostile reaction; It was impossible for farmers to identify with the caricatures that were supposed to represent them.

Picture 5:



D. The second edition: the first enquiries

The composition and the line taken in the next "Minka" were determined by the farmers' reactions and other feedback from development workers. The leader expressed the opinion of a farmer:

- "Do we need help from outside or can we solve our own problems? It is difficult to decide. Sometimes we can't tell, but we do carry out experiments and take note of new techniques. Now we have got to increase our knowledge because there is still a lot to do. In our village community we have a great deal to learn and a great deal of work lies ahead of us." ("Minka", No. 2).

The point is made emphatically that the flow of information should no longer be in one direction only. The farmers' own experience should be taken into account as an ongoing experiment in the critical processing of information.

Picture 6:

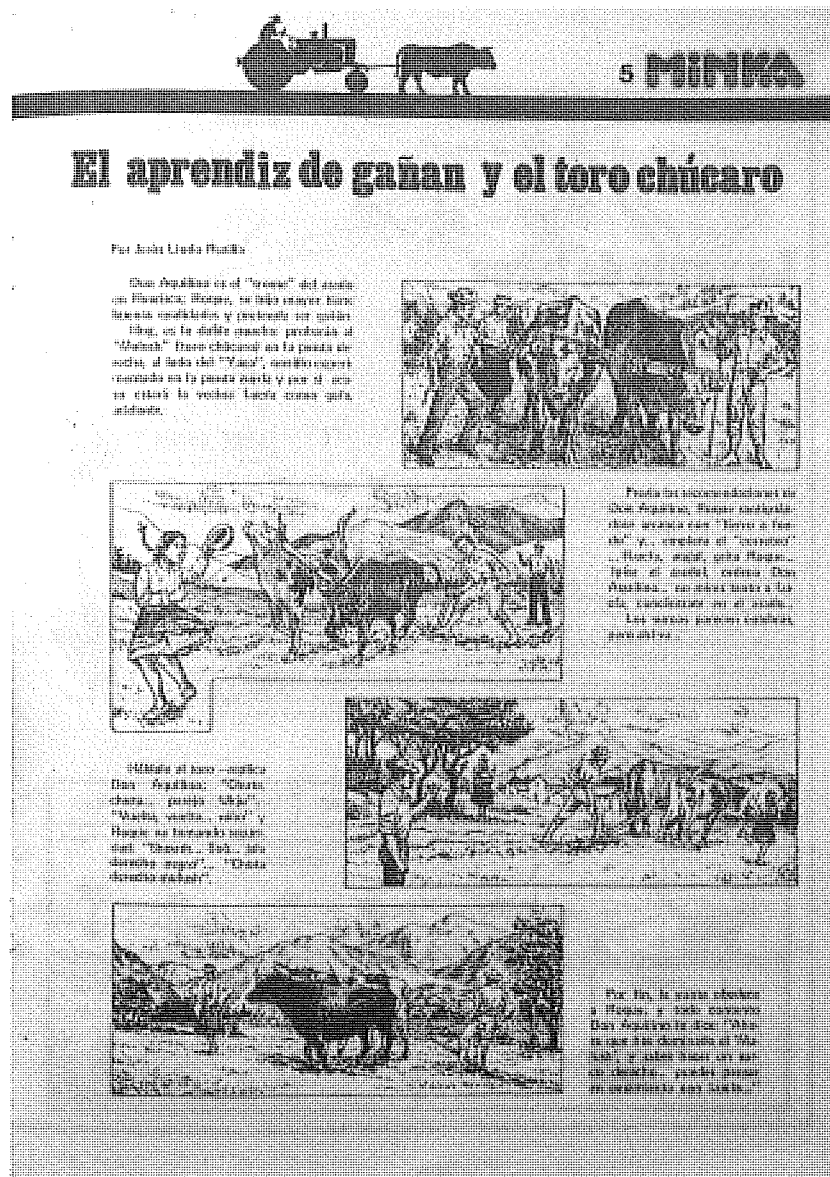
For example, the second edition of "Minka" had a key issue on its title page: "Is mechanisation progress, and if so, for whom?" (→ picture 6). To illustrate the theme, there is a picture of two oxen pulling a tractor with several men standing behind it. This is an authentic photograph.

The title page was intended to be a critical introduction to the problem of mechanisation. The following articles appeared in this edition:

- "How much does a tractor cost?"
- "Useful life below the surface of the earth."
- "The apprentice plough-boy and the wild bull."
- "Description of a simple plough."
- "Mama Jashi and nutrition in farming families"
- "El Rhuki, an old, traditional spade."
- "Growing potatoes."



Picture 7:



The farmers' reactions to this edition were:

- They asked what the terms 'mechanisation' and 'progress' meant on the front page. They thought the photographs were absurd, illogical and unrealistic. They missed the irony in the picture.
- They made few comments on the articles dealing with tools used by farmers.
- When groups of farmers tried to evaluate the comic strips, they could not understand them, even though the illustrations of people were more realistic in this edition.
- But people in the village communities can still recall "Minka" today on account of the illustrated story "The apprentice ploughboy and the wild bull" (→ picture 7).

Analysis

This edition of "Minka" was equally incomprehensible and failed to communicate, but this time on a different level. Whereas the content and form of the messages in the first edition were formulated from the standpoint of the sender and were simply presented for consumption by the uninitiated, in the second edition the receivers of the messages were involved in the communication process. All the articles were directed at a clearly defined readership of farmers. The messages are formulated not only for farmers, but also about farmers.

Analysis of the positive reception of the illustrated story underlines the components necessary to communicate an important message:

- The title used colloquial language and drew on the common experience of peasant farmers.
- The text was supplemented by exciting pictures.
- The topic was treated with the kind of humour that appealed to the farmers.
- The active involvement of the farmer is crucial. He tells his own story as a real person in his own natural and social environment. Above all, the article reflects the farmers' perception of a familiar occurrence.

The later editions of "Minka" followed these guidelines, but there were still problems again.

E. The third edition: symbolism, perception, cognition

Picture 8:



The subject of the third edition was drought (→ picture 8), introduced by the very direct title: "Is there a shortage of water?" The illustration shows the consequences of a lack of water. The rays of the sun on the horizon beat down on a wilting maize plant in the foreground and the skull of a dead cow.

On the inside pages the articles describe ways of solving the problem in different rural regions of Peru and also take an example from China. One of the articles concentrates on a successful technological solution – a reservoir dating from the pre-Inca era.

By providing exact and detailed information, the articles were trying to draw the attention of the farmers to archaeological remains to illustrate how problems were solved in the past (→ picture 9).

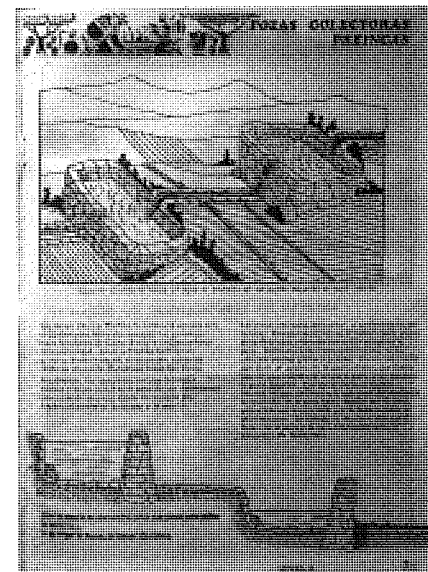
The comic strip "Mama Jashi" emphasised the technological potential of farmers (→ picture 10).

The readers reacted very sceptically to the title page. The article about reservoirs in pre-Inca times was comprehensively rejected. The third attempt at using comic strips was again unsuccessful.

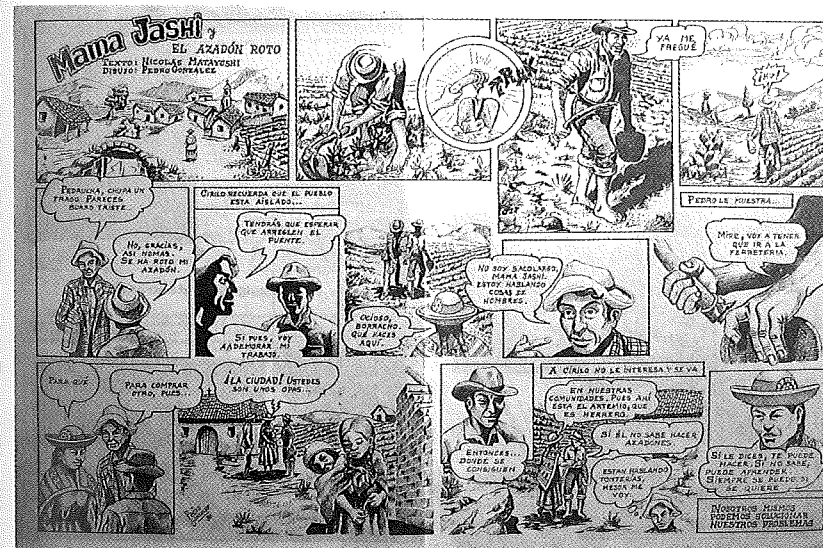
Analysis

The reason for the sceptical reaction to the picture on the front page of the paper was the misuse of features of the natural world that have a clear symbolic meaning in peasant culture. The sun, plants, earth and skull are recognisable motifs in themselves, but for the peasant they have a very precise significance. All these motifs belong to the sphere of magic, where a different logic applies. The sun, which in both Spanish and Huanka is masculine, always shines from high in the sky, whereas in this picture it shines from low down. The female force of the moon (feminine in Spanish and Huanka) ought to be placed next to the male power of the

Picture 9:

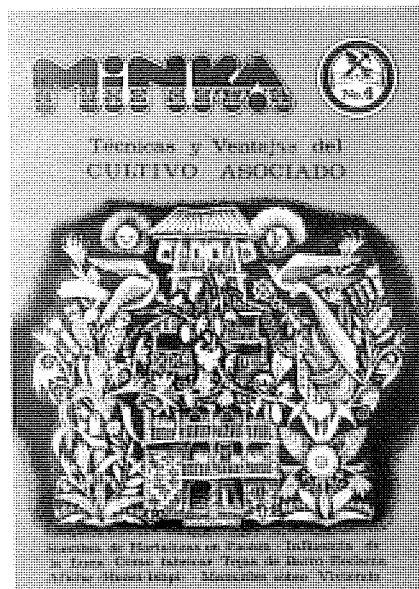


Picture 10:





Picture 11:



The main illustration is a drawing of a house with several storeys, round which several very large plants are entwined, crossing each other or joining in the middle. At the top left of the picture is the sun and at the top right the moon.

Underneath some of the contents are listed:

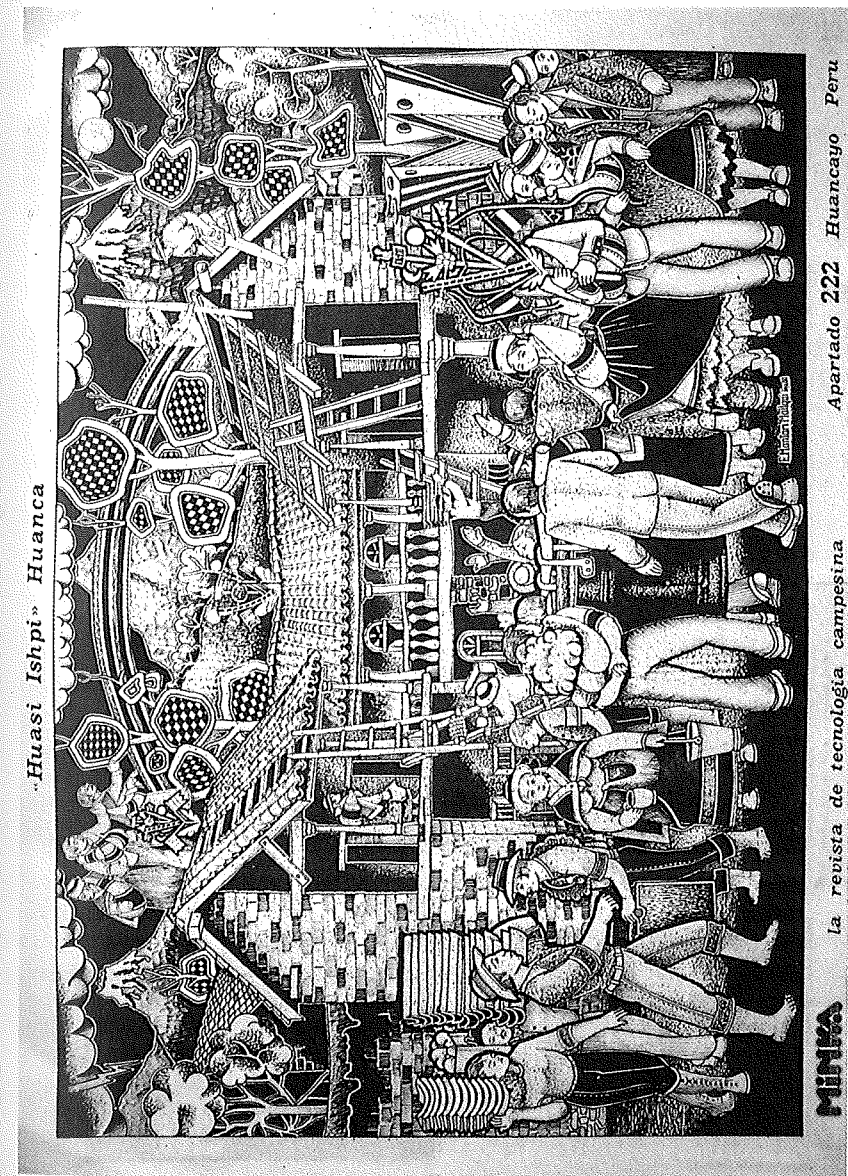
- Growing vegetables in Pucara
- Effects of the moon
- How are roof tiles made using clay?
- Send for the poster "Huasi Ishpi" (topping out ceremony in Huanka) (→ picture 12)
- Brochures on house building

crete terms. We can compare the composition of the picture on the title page with the embroidery on the skirts made by peasant women. The plant and house motifs occur in peasant art not only in embroidery but also in the work of silversmiths, pumpkin artists, weavers and potters in the villages of the Mantaro Valley. Crafts and farming go hand in hand and belong to the material and symbolic culture of the peasants in the highlands.

The same can be said of the poster "Huasi Ishpi Huanca", → picture 12, which also uses the peasants' aesthetic codes to make the illustration of the message as faithful to real life as possible. Also, the poster shows people in recognisable social interaction. The guardians of the new house are carrying the cross decorated with symbols, which is then placed on the roof. Friends and the whole family take part, symbolising the social origins of the family unit.

Building the house and then everyone involved celebrating with eating and music are the two sides of the same coin. The work on the house and the feast are two aspects of real life, and the poster would not be readily understood, or at least would be incomplete, if it failed to illustrate both aspects of peasant life.

Picture 12:



### G. The fifth edition: Farmers' expertise

These methods of creating pictures and text were refined in the following editions of "Minka". We now look at the content of the text separately, although communication is in fact the combined effect of both text and pictures.

If we analyse the first edition of "Minka" from the point of view of content, we see that it attempts to deal with numerous, unrelated topics. This approach is then changed in the next few issues, resulting in fewer topics, but each is treated in several short articles. This change was made in response to the farmers' request for more information on the problems or subjects broached. The earlier treatment of topics like house building, mixed cropping, tools, vegetable cultivation and drought appealed directly to the farmers, but it was superficial and therefore unsatisfactory. Although the following "Minkas" contained more information supplied by the peasants themselves, the topics were still not dealt with in enough detail to satisfy the small farmers. By observing the reading habits of the farmers in the Mantaro Valley, it was established that:

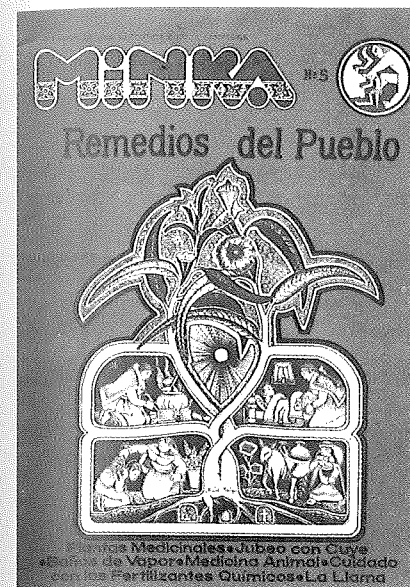
The average farmer read the newspaper in the same way as other reading material, i. e. each article was read aloud in the family, after work in the fields had finished in the afternoon. The different generations (the old people, adults and children) all expressed their sometimes differing opinions on the articles.

On the other hand, they were in no hurry to finish reading "Minka", because there was not much reading material available on farming topics. Thus a family might spend two or three weeks reading and discussing one edition. But the farmers found that the content of "Minka" was not sufficiently detailed for reading and discussion with the older generation over this length of time. The farmers turned this initial weakness of the paper into a benefit in later editions: in their dissatisfaction, some peasant "specialists" approached the editors to be interviewed and to demonstrate their (very detailed) knowledge.

#### Peasant specialists

It has become abundantly clear that there exists in peasant society a fund of knowledge that, instead of being written down, is stored and implemented by "specialists". These experienced farmers enjoy social recognition and are confirmed in their authority by other farmers. Their standing and prestige cannot be replaced by a newspaper or any other institution introduced into their society. As contact with these peasant specialists became more frequent, the topics in "Minka" became more relevant and the editorial team devised a new approach. Starting with Minka No. 5, emphasis was now placed on one central topic that drew on the expertise of the peasant specialists and was therefore described in detail and examined in depth.

Picture 13:



Minka No. 5 was produced with this new approach to subject matter, which in this case was "popular medicine", → picture 13. Various popular remedies are explained, from the use of selected curative plants to diagnosing diseases with the help of the "Jubeo con Cuy" (the guinea-pig diagnosis → picture 14).

This article deserves special attention because when it was published it had a dynamic effect, leading to a further clarification of the role of peasant knowledge.

The article shows in detail both the ritual and technical approach used by a healer to identify what disease her patient is suffering from.

She uses a live guinea pig that she rubs over the body of the patient to locate the disease. Then she kills the animal, cuts it open and "reads" the entrails to see what is wrong with her patient. The illness may be the result of a spell cast by a witch-doctor or of not paying his tribute (money) to the forces of nature, i. e. he has disrupted the balance between this world and the supernatural world. As soon as the healer has recognised the source of the illness, she announces how it should be treated.

The first edition of "Minka" had a circulation of 2 000 copies, but by the fifth edition it had risen to 9 000, proving how much the interest of the peasants in the paper had increased. Their explanation of the paper's success was that diagnosis and cure of sickness by using a guinea-pig had been suppressed by doctors and medical personnel, whereas the paper gave this traditional method as much attention as other remedies.

What is noteworthy about this reaction is that peasant knowledge in the Andes had traditionally been dismissed as superstition, ideological distortion, folklore or pseudo-science, and the fact that the peasants were fully aware of this denigration. The positive reaction to an upgrading of peasant knowledge in "Minka" was a clear lesson, because it had been quite wrong to try and separate it from the system of beliefs and the social structure, both of which are fundamental to cultural and historical awareness in that society. By drawing attention to a remedy frowned upon in the towns, "Minka" touched on the central idea in the cultural world of the

Picture 14:



Andean peasants, who felt they had been recognised and their society enhanced. This broke the ice.

From the point of view of communication, Minka No. 5 introduced a third stage that differed in quality from the previous editions:

The one-way flow of information that characterised the early editions (like a monologue) was followed by emphasis on the peasants' reactions (feedback). But this emphasis nevertheless still contained various technical proposals that the receiver was intended to adopt after they had first been decided on and developed by the sender (Minka). When the information was not understood and difficulties of feedback occurred, new approaches were tried in order to adapt the information to the receivers. In this way, elements of peasant aesthetics were incorporated, together with everyday expressions, basic concepts, symbolism and the peasants' personal perception of reality. This was continued until the fifth edition, at which point the receivers became the subjects of the communication process. The role and value of peasant knowledge were now recognised and the way in which messages could be communicated changed for both the sender and the receiver. The result was a dialogue, a process of mutual understanding in which the subject matter and the form of the message were no longer derived from unrelated aspects of peasant life but arose naturally from the socio-cultural process.

**H. Later editions as topic-based newspapers**

Using this method, the later editions of "Minka" are restricted to a single topic, for example, house building (No. 8), crops in the Andes (No. 10), the village community (No. 11), education in peasant society (No. 12), farm implements in the Andes (No. 13), vegetable cultivation in Pucara (No. 14).

Three positive points should be stressed from the experience of "Minka":

- a) The peasants initiated a constant process of discussion, criticism and thinking about the topics, without the staff of "Minka" being directly involved.
- b) Ways of developing written extension aids were devised.
- c) Information about peasant culture and technology was gathered and disseminated.

**I. The approach that was finally adopted:**

The concept of "Minka" that applied in the "guinea-pig diagnosis" was given greater depth in subsequent numbers. After the initial didactic approach, handing

down instructions to the peasants, "Minka" progressed to a communications strategy based on the appreciation of peasant culture.

With this strategy the local "Minka" team operated as follows:

1. On the basis of answers and discussions with farmers from the village communities, they put forward topics that could feature in later issues of "Minka". They decided on the next topic after considering the various possibilities (depending on peasant specialists, their own expertise).
2. By talking to farmers, problems and possibilities were investigated from the farmers' point of view, and then many farmers were interviewed.
3. The interviews obtained were critically evaluated by the editorial team, for example, with the question: "In what way is their culture being enhanced?"
4. The statements were collected, ordered and used in the illustrations, language and thinking of the paper. Peasants were asked for drawings and articles and these were then included in "Minka".
5. Before final decisions on layout and printing, random checks were made to see how effectual and readable pictures and texts were.
6. The paper was then printed at one of the local offset-printers.
7. A network of peasant distributors sold the paper in the villages.
8. Finally discussions were held with farmers and then the editorial team discussed and criticised the current issue to get ideas and suggestions for the following editions.

Using this approach, the "Minka" team tried to harness the following aspects of peasant culture and to work them into the content of the paper:

1. the holistic and unifying experience of the perceived world in contrast to the fragmentation that is characteristic of specialists;
2. the way the peasants in the Andes see themselves as taking the initiative in their society, experimenting and changing their techniques;
3. the ritualisation of the historical interaction between the individual, family and society, and between man and nature;

4. the perspective of peasant technology in the Andes that:

- uses knowledge, abilities, forms of labour and implements in a rich natural environment;
- reacts flexibly to local conditions and is adapted to specific situations;
- is communicated by specialists and is socially accessible;
- is a part of a material and symbolic system.

**Photographs:**

Volker HOFFMANN

**Compiled by:**

Maria Angelica SALAS de TILLMANN

