# PLANNED SMALLHOLDER RUBBER DEVELOPMENT 1975–81

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The smallholder rubber industry, while being very small, is of growing importance in Papua New Guinea. Rubber has proved to be a good basis for the implementation of the Government's Improvement Programme and consequently will be given increased emphasis. Over the next five years, the industry should see a period of rapid expansion and significant technological change. The recently formed Rubber Development Section of the Department of Primary Industry, has been made responsible for supervising this programme and its progress.

Village development will continue to be the most important area of the industry's expansion. The total number of smallholders is expected to increase by a third from about 3 000 to over 4 000. Of this increase 70% are likely to be in villages and the remaining 30% should be fairly evenly divided between the new Gavien Land Settlement Scheme and re-developed Land Settlement Schemes at Cape Rodney, Murua and Bailebo. By 1980-81 we believe village smallholders will comprise about 80% of the total and that almost 50% of all smallholders will live in the Western Province.

When analysing future plans a similar trend can be seen, however with a few noteworthy differences. The total area planted is expected to double, from a little over 3 300 ha to in excess of 6 700 ha. Seventy per cent of these new plantings could be on village holdings with the balance on land settlement schemes. It should be noted that the Gavien Land Settlement Scheme, while representing only 3.5% of the total smallholders, is expected to plant about 25% of the total new plantings. By 1980-81, 75% of all smallholder rubber will be planted on village holdings and over 40% of all plantings will be in the Western Province. It is interesting to note that village holdings on average are only two-thirds the size of their scheme counterparts.

Production is expected to increase by almost three times from a little over 300 tonnes per annum to about 900 tonnes. Production from the Cape Rodney Land Settlement Scheme alone, by 1980-81, will amount to almost 40% of the total smallholder production. Western Province production is likely to increase over eight times and by 1980-81 represent some 30% of total smallholder production. It is of interest to note, that while scheme plantings will only account for about 25% of the total area planted, they will produce nearly 50% of the total production. This is mainly due to higher productivity, that is, scheme holders are producing on average about 850 kg/ha as against a little over 300 kg/ha for village holdings.

The industry is currently in the process of a gradual change from polyclonal seedling planting material to budded material. Owing to shortages of budwood material and expertise, this programme has not progressed quite as well as we would have liked. However, with the commencement in late 1975 of eight "man years" of United Nations Development Programme, in the form of two experienced budgrafters, the programme is expected to go ahead rapidly. We are now confidently predicting that within two years 90% of new plantings will be budded material.

To begin with we will be using solely a mixture of PR107 and GT1 clones. Green budstick production nurseries initially will be established exclusively on selected Department of Primary Industry Stations. For the foreseeable future, common or illegitimate seedling rootstock material of polyclonal origin will be used only on those DPI Stations where it is possible to organize a central nursery for a scheme or group of villages.

In all other circumstances, interested groups of smallholders or individuals will establish their own polyclonal seedling nurseries (similar to present situation). These people will then undergo budgrafting training at the local DPI Station, and when their seedlings are of buddable size they will obtain green budsticks from DPI to bud their own nurseries.

DPI is currently carrying out a survey to determine the most suitable clone for each individual rubber-growing area. It is hoped that by 1980-81 we will have more specific clonal recommendations for each rubber-growing area.

The major area of change in the smallholder industry is planned for the marketing sector. There are two main changes proposed, both have the common aim of maintaining the industry's long term competitiveness in the international rubber market. Firstly, the Rubber Development Section is initiating studies into the feasibility of reprocessing all smallholder rubber through a central factory. This factory could produce special compounds for use by small-scale rubber goods industries to substitute some imports. The obvious possible implication for smallholders would be a change from the traditional production of RSS to some form of "initial concentration rubber", that is, cup-lump, polybag lump or "michelin" sheet. Secondly, work should commence, in 1980-81 at Gavien, on the first factory to produce Technically Specified Rubber (TSR)* from smallholder rubber.

There are numerous other aspects of the smallholder industry which will be receiving increased emphasis and hence should show response.

*Rubber graded by chemical analysis rather than visual appraisal.

Increased participation by women, particularly in tapping and budgrafting, will be given special attention, as, in the past, they have been both ignored by extension services and traditionally disadvantaged in Papua New Guinea society.

Inter-row cropping will be encouraged as a normal feature of rubber development in an attempt to create more interest and provide a source of cash income during the period prior to tapping.

Poor transportation has proved a serious problem for village smallholder development in the past, and would probably be one of the major reasons for the relatively low productivity of village rubber holdings. Through the New Zealand Aid Programme, attempts are being made to improve this situation by providing more reliable water transport. This may allow us to introduce a scheme of purchasing at the village rather than at main centres and hence improve smallholder productivity.

Where possible we are planning to encourage grower-owned organizations to market rubber and supply necessary inputs. Through a number of small-scale industries it is hoped to produce more of the industry's tapping and processing equipment needs within the country and hence reduce costs to smallholders.

Of course, this relatively ambitious programme of expansion and change will require considerable government support. The Government's rubber research programme is being reviewed in an attempt to direct it more to the needs and problems of the smallholder. A training programme, under the United Nations Development Programme, with a strong practical bias, is upgrading staff and smallholder skills while helping us to keep up to date with the latest technical knowledge. The National Rubber Planning Group, a government departmental body made up of field and headquarters representatives, has been established to review smallholder development programmes annually and recommend policy. As mentioned before, the recently established Rubber Development Section will be overseeing the programme and analysing its progress.

What of the smallholder industry after 1980-81 ? Of course there are many unknown factors which make projections very much a case of guess work but, assuming minimal monetary and expertise constraints, the following could be the situation ten years from now. The area under the control of smallholders may have doubled mainly as a result of the subdividing of smaller plantations and the expansion of the Gavien Scheme. It is possible that at least one land settlement scheme based on a central estate surrounded by smallholder plantings could be in the planning stages. Production should have doubled principally because of Gavien coming into production. About 40% of smallholder rubber production will be exported in the form of TSR while the remaining 60% will be absorbed by a central factory producing special compounds required by small businesses manufacturing rubber goods. All Papua New Guinea rubber, of both smallholder and plantation origin, will probably be marketed through the Papua New Guinea Rubber Marketing and Development Board. While at smallholder level productivity will be rising through better marketing, the greater need for money, and better-yielding material, hence ensuring a potentially viable future.

To conclude, it should be added that while the short term future is of expansion and modernization, this has come none too soon and is by no means assured of complete success.

*This paper is adapted from a paper presented at the Association of Natural Rubber Producing Countries Seminar on Progress and Development of Rubber Smallholders, held at Haadyai, Thailand, in October, 1976.*

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PNG SMALLHOLDER RUBBER DEVELOPMENT PLAN 75-76 TO 80-81

| | Current Situation 75 - 76 | | | | | Projected Situation 80 - 81 | | |
|---|---|---|---|---|---|---|---|---|
| Province | Number Of Growers | Immature Plantings (Ha) | Mature Plantings (Ha) | Total Planted Areas (Ha) | Production 75-76 (Tonnes) | Number Of Growers | Total Planted Area (Ha) | Production 80-81 (Tonnes) |
| Western | 1 600 | 1 615 | 130 | 1 745 | 30 | 2 000 | 2 870 | 250 |
| Gulf | 90 | 115 | 50 | 165 | 50 | 100 | 290 | 65 |
| East Sepik | 55 | 27 | 8 | 35 | 4 | 350 | 1 300 | 10 |
| Manus | 130 | 98 | 2 | 100 | 1 | 150 | 360 | 15 |
| Northern | 450 | 190 | 160 | 350 | 65 | 450 | 400 | 150 |
| Central | 700 | 670 | 280 | 950 | 160 | 850 | 1 100 | 400 |
| West Sepik | 0 | 0 | 0 | 0 | 0 | 200 | 300 | 0 |
| PNG Total | 3 060 | 2 730 | 635 | 3 365 | 310 | 4 150 | 6 740 | 890 |
| Village Development | 2 560 | 2 155 | 430 | 2 585 | 135 | 3 320 | 4 910 | 480 |
| Scheme Development | 500 | 575 | 205 | 780 | 175 | 830 | 1 830 | 410 |