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Rural Prosperity is Nation's Economic Stability: A Partnership Approach to Attain Sustainable Production of Groundnut and Pigeonpea in Smallholder Agriculture for Quality Diet, Household Food Security, and Poverty Alleviation in Malawi

**Quarterly Report
April to June 2000**

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1. Summary

This quarterly report highlights activities carried out during the period April to June 2000, progress made to date, and activities planned for the next quarter (July to September 2000). The main activities included: visiting all contract basic seed production fields for groundnut and pigeonpeas to monitor crop development and assess general crop management, rouging in pigeonpea breeder seed crops planted at Chitala and Baka Experimental Stations and harvesting and threshing of groundnut breeder seed planted at Chitedze and Chitala.

During the first two weeks of April, we continued conducting groundnut Field Days in Kasungu, Mzuzu, and Lilongwe PLAN Unit Areas, NASFAM areas in Kasungu and Rumphi, and World Vision Malawi areas in Kasungu. The objectives of these field days were: 1) to demonstrate the differences among four groundnut varieties; three improved varieties, CG 7, ICGV-SM 90704 and JL 24 and a farmer's local variety that were planted on several demonstration plots; 2) to discuss with the farmers the most appropriate cultural practices to be followed for increased groundnut production, and; 3) to offer an opportunity to farmers to discuss and learn from each other the best cultural practices for increased groundnut production. A total of 2,656 farmers participated in the field days this quarter of which 45% were women farmers.

Overall, 40 groundnut Field Days have been conducted since the beginning of the season. These Field Days attracted some 3,435 farmers from south, central, and northern Malawi of which 1,605 were women farmers. A full list of the farmers who participated in these Field Days is available with ICRISAT-Malawi.

2. Objectives of the Project

The project has three main objectives:

- To provide high quality breeder seed and basic seed of high-yielding, disease-resistant groundnut and pigeonpea varieties to various stakeholders in Malawi.
- To increase awareness of the value of improved varieties in enhancing the production of groundnut and pigeonpea among smallholder and commercial farmers through on-farm demonstrations.
- To strengthen the capacity of DARTS, the Department of Extension, and relevant NGOs in transferring groundnut and pigeonpea production technologies through short-term training courses.

3. Activities carried out during the period April to June 2000

3.1. Objective 1: To provide high quality breeder seed and basic seed of high-yielding, disease-resistant groundnut and pigeonpea varieties to various stakeholders in Malawi.

3.1.1. Monitoring of groundnut and pigeonpea breeder seed crops

3.1.1.1 Groundnut breeder seed crop

The groundnut breeder seed crops planted at Chitala and Chitedze were harvested, dried and threshed. From Chitala some 14 t of pods were realized while from Chitedze we realized 12.95 t of pods. We expect a total of 15 t of quality seed from this lot.

3.1.1.2. Pigeonpea breeder seed crop

Two hectares, each of ICEAP 00020 and ICEAP 00040 were planted at Chitala Experimental Station while two hectares of ICP 9145 were planted at Baka Experimental Station in Karonga. The crop at both sites is doing extremely well. All crops are now in full bloom. Spraying against flower and pod borers is in progress. It is still too early to estimate the yield of the pigeonpea crop. However, because of the increase in hectareage, we should be able to exceed the projected 2 t.

3.1.2. Monitoring of groundnut and pigeonpea basic seed crops

The Visiting Scientist and a Government Seed Inspector visited all groundnut and pigeonpea basic seed crops with a view to monitor and check whether all requirements for certification had been followed. All the fields passed the initial inspection on crop management, isolation distances, and crop purity. Satisfactory reports were issued to all growers. However, the Inspector suggested that the pigeonpea fields be visited again, since some of the plants had not yet flowered. It is therefore necessary to re-inspect the crop during the next Quarter.

3.1.2.1. Contract groundnut basic seed crop

All the three large growers, Press Agriculture, Hatzco Ltd., and MacPherson (producing ≥ 30 ha.) and six small-scale growers (producing 5 ha each) were visited to monitor field operations, general crop management, and isolation distances. In general, the crop was good in terms of management, particularly from the large growers. All fields passed the inspection exercise. All crops have been lifted, dried and threshed. Shelling is currently in progress. Observations made during the last quarter from all the contract farmers' crops still stand as presented in Table 1.

Table 1. Observations made on contracted farmers for basic groundnut seed production, 1999/2000 crop season, Malawi.

Name of farmer or estate	Area planted (ha)	Observations made at the time of visit and quantity of seed expected
D.W. MacPherson	50	Excellent crop, early planted and very well managed. Noticed isolated rosette incidence in some fields. Yields are expected to be high- approx. 75 t
Press Agriculture	40	Excellent crop in general, except 5 ha at Chilikhanda farm which had not yet been weeded at the time of visit. We noticed isolated incidences of hot spots of groundnut rosette at Lusa estate in Mchinji (15 ha), Kachawa estate in Lilongwe (15 ha) and Kakoma estate in Lilongwe (5 ha). Overall we expect approx. 28 t
Hatzco Limited	30	Good crop although late planted with sub optimal plant population. Groundnut rosette incidence estimated at 7%. Yields are likely to be low, estimated at 700 kg ha ⁻¹ . Overall we expect about 21 t
TW. Kampingo	5	Excellent crop, early planted and very well managed. Very few rosetted plants noticed. Yields are likely to be high in this field, approximately 6 t expected.
E.B. Mahuka	5	Good crop, planted early but weedy. Yields are likely to be low, Approximately 3 t expected.
Dr. E.H. Chilembwe	5	Good crop, but planted rather late. Weeding was in progress at the time of visit. Very few rosetted plants were noticed. Yields are likely to be low to high, approximately 4 t expected.
Mrs. Rose Nyirenda	5	Average crop but planted rather late. Heavily attacked by groundnut rosette. Yields will be very low. We expect approximately 2 t from this farmer.
Dr. I.M.G. Phiri	5	Good crop, but planted rather late. Weeding was a big problem in this field. Very few rosetted plants noticed. However, the yields will be low. We expect approximately 3 t from this farmer.
Khembo D. Phiri	5	Good crop, but planting was staggered. Crop management was fairly good. High yields are expected from the early planted crop. Overall, we should expect approximately 3 t from this farmer.

It is evident from Table 1 that the overall expected yields will be slightly lower than projected by 5 t. This variance is mostly due to late planting, late weeding, and prevalence of groundnut rosette in most late planted fields.

3.1.2.2. Contract pigeonpea basic seed crop

All farmers were visited during the quarter. In general, the crop was good in Salima, Zomba, and Blantyre. The crop was in full bloom at all sites except Gulugufe Farm in Mangochi. Generally, Gulugufe Farm was poor and the crop was suffering from moisture stress. Yields will be very low from this farm. All fields passed the inspection for isolation. However, farmers were advised to continue monitoring the fields for off types. No major changes were observed that necessitated an adjustment of the yield figures reported during the last Quarter. The summary still stands as was presented in the last report (Table 2).

Table 2. Observations made on contracted farmers' fields for basic pigeonpea seed production and quantity of seed expected, 1999/2000 crop season, Malawi.

Name of farmer or estate	Variety	Area planted (ha)	Observations made at the time of visit and quantity of seed expected
Speedys 1	ICEAP 00040	20	Excellent crop, early planted and well managed. We should expect about 20 t from this farm.
Speedys 2	ICEAP 00020	20	Excellent crop. Early planted and well managed. We should expect about 20 t from this farm.
Speedys 3	ICP 9145	20	Excellent crop. Early planted and well managed. We should expect about 20 t from this farm.
Gulugufe Farm	ICEAP 00040	10	Very poor crop due to poor crop establishment and weeding. The field was gappy and weedy. We expect about 3 t.
E.D. Pyman	ICP 9145	5	Excellent crop. Early planted and well managed. We should expect about 7 t from this farm.
Kamata Limited	ICP 9145	10	Very good and well managed crop. We expect approx. 10 t from this farm.
Mr. Daza	ICP 9145	5	Very good and well managed crop. We expect approx. 3 t from this farm

Summary of adjusted area planted to pigeonpea:	ICEAP 00040	30 ha
	ICEAP 00020	20 ha
	ICP 9145	20 ha

The quantity of basic pigeonpea seed expected is lower than the anticipated by about 17 t. This has resulted from 1) an adjustment of the area planted, 2) poor germination of the seed and 3) rouging and slashing of some pigeonpea area at Chadzunda Farm (Speedys 3) to conform to the recommended isolation distance between ICEAP 00020 and ICEAP 00040.

3.2. Objective 2. To increase awareness of the value of improved varieties in enhancing the production of groundnut and pigeonpea among smallholder and commercial farmers through on-farm demonstrations.

3.2.1. Field days:

A total of 18 field days were conducted for PLAN International; eight for NASFAM, and three for World Vision Malawi in April 2000. The objectives of the field days were:

1. To demonstrate the differences among four groundnut varieties; three improved varieties, CG 7, ICGV-SM 90704 and JL 24 and a farmer's local variety that were planted on several demonstration plots.
2. To discuss with the farmers the most appropriate cultural practices to be followed for increased groundnut production.
3. To offer an opportunity to farmers to discuss and learn from each other the best cultural practices for increased groundnut production.

3.2.1.1. PLAN International

As reported in the last Quarterly Report, only six Field days were conducted for PLAN International in their Lilongwe unit areas. During this quarter, an additional 18 such Field Days were conducted in PLAN Unit areas of Kasungu (10), Mzuzu (7) and Lilongwe (1). In total, 2,074 farmers attended the field days. Of the farmers who attended the Field Days, 1,003 were women farmers and 1,071 were men farmers. The actual breakdown of the farmers who attended the field days is given in Table 3.

Table 3. Breakdown of farmers who attended field days from 3 April to 16 April 2000 at different locations in the Kasungu, Mzuzu, and Lilongwe Unit areas of PLAN International.

Location	Name of the area	Number of women	Number of men	Total
Kasungu Unit				
1	Kawongo	26	48	74
2	Sayini Mtuwa	27	24	51
3	Petros	49	70	119
4	Chisinga	39	76	115
5	Kanyunya	27	45	72
6	Luziba/Mkanda	49	57	106
7	Kasirikiza	38	52	90
8	Sopani	22	36	58
9	Boni	27	26	53
10	Pitala	38	38	76
Total		342	472	814
<u>Mzuzu Unit</u>				
1	Baula	13	70	83
2	Bwabwa	71	54	125
3	Mkana	169	99	268
4	Elangeni	115	126	241
5	Edundu	93	54	147
6	Emuvuyeni	76	85	161
7	Kabumba	105	66	171
Total		642	554	1196
Lilongwe Unit				
1	Sankhani II	19	45	64
Grand Total		1003	1071	2074

In general, attendance was good this time compared to last quarter. We had the highest number of participants in the Mzuzu PLAN areas of which 54% were women as opposed to only 42% that attended the Field Days in Kasungu.

3.2.1.2. NASFAM

Eight Field Days were conducted in Kasungu (4) and Rumphi (4) NASFAM areas. A total of 137 farmers attended the Field Days, which took place on 4 and 5 April 2000 in Kasungu, while 171 farmers attended the Field Days in Rumphi between 7 and 11 April 2000. Table 4 gives a summary of the number of farmers who attended the field days per area.

Table 4. Breakdown of farmers who attended field days from 4 April to 11 April 2000 at different locations in the Kasungu and Rumphi areas of NASFAM.

Location	Name of the area	Number of Women	Number of men	Total
<u>Kasungu Unit</u>				
1	Lisasadzi	7	32	39
2	Chipala	10	27	37
3	Chamama	15	5	20
4	Chulu	17	24	41
Total		49	88	137
<u>Rumphi Unit</u>				
1	Nkhamanga	16	35	51
2	Hewe	6	39	45
3	Engucwini	12	25	37
4	N'gonga	9	29	38
Total		43	128	171
Grand Total		92	216	308

In general, the attendance was poor. This was mainly because most farmers in the area were busy grading their tobacco in readiness for sales. In some cases farmers had to attend to funeral ceremonies at nearby villages. Nevertheless, those who attended these field days were very appreciative.

3.2.1.3. World Vision Malawi

Three Field Days were conducted in Kasungu areas of World Vision Malawi. In total 274 farmers attended these Field Days, which were held in areas 1 and 2 in Kasungu and in Dowra West. Only 92 women farmers attended these Field Days. Table 5 gives a breakdown of farmers who attended Field Days that were conducted on 12 and 13 April 2000.

Table 5. Breakdown of farmers who attended field days from on 12 and 13 April 2000 in Areas 1 and 2 and in Dowa West of World Vision Malawi.

Location	Name of the area	Number of women	Number of men	Total
Kasungu Unit				
1	Kasungu Unit 1	20	55	75
2	Kasungu Unit 2	31	53	84
3	Dowa West	41	74	115
Total		92	182	274

Overall, 40 field days were conducted on groundnut since the beginning of the 1999/2000 growing season. In total, 3,435 farmers attended the Field Days that were conducted in the south, center, and northern Malawi. Of this number, 1,605 were women farmers. A summary of all groundnut Field Days conducted during the season is presented in Table 6.

Table 6. A summary of groundnut field days held during the 1999/2000 growing season

Organization	Number of field days held	Number of farmers attending		
		women	men	Total
CARE International	2	54	145	199
World Vision Malawi	3	92	182	274
NASFAM	12	176	346	521
PLAN International	23	1283	1158	2441

In general the field days were greatly appreciated by all farmers who attended them. It was interesting though to note that in spite of farmers having been exposed to CG 7 in 1995, most of them still did not know the variety. However, farmers showed a lot of interest in these Field Days.

3.3. Objective 3. To strengthen the capacity of DARTS, the Department of Extension, and relevant NGOs in transferring groundnut and pigeonpea production technologies through short-term training courses.

3.3.1. Pigeonpea production training course

Preparations for a pigeonpea training course to be held at Motel Paradise in Blantyre from 16 to 20 July 2000 have been finalized. About 50 participants to be drawn from the Ministry of Agriculture and Irrigation Development, various NGOs, and Bunda College of Agriculture are expected to attend this course. We also expect participants from World Vision and CARE Mozambique to participate.

4. Comparison of actual accomplishments with the goals and objectives established for the 1 April to 30 June 2000

A summary of achievements for the quarter are presented in Table 7. Essentially all planned activities for the period 1 April to 30 June 2000 were carried out. No major deviations occurred.

5. Activities planned for the next quarter

Planned activities during the next quarter (July-September 2000) include:

- Second field visits to all pigeonpea basic seed growers with government inspectors to verify purity of the varieties being grown.
- Visits to Baka Experimental Station in Karonga and Chitala Experimental Station in Salima to monitor ICP 9145, ICEAP 00020 and ICEAP 00040 pigeonpea breeder seed production.
- Shelling, cleaning, and packaging of all groundnut breeder seed.
- Conduct a pigeonpea training course, which is scheduled for 16-20 July 2000, at Motel Paradise in Blantyre.

Table 7. Comparison of actual accomplishments with the goals and objectives established for the period 1 April to 30 June 2000.

Objective	Planned activities for the quarter (Jan-Mar 2000)	Accomplishment	Remarks
<p>1. To provide high quality breeder seed and basic seed of high-yielding, disease-resistant groundnut and pigeonpea varieties to various stakeholders in Malawi.</p>	<ol style="list-style-type: none"> 1. Field visits to all basic seed growers with Government Inspectors to ascertain isolation distances required for certification. 2. Visit Baka Experiment Station in Karonga to monitor ICP 9145 pigeonpea breeder seed production. 3. Harvest all groundnut breeder seed at Chitedze and Chitala. 	<p>-Visited all basic seed growers as planned with a government seed inspector.</p> <p>-Visited Baka Experimental Station.</p> <p>-Harvested and threshed all CG 7 breeder seed at Chitala and Chitedze. The produce from Chitala was transported to Chitedze for storage, shelling and packaging.</p>	<p>Satisfactory reports issued to all groundnut and pigeonpea growers.</p> <p>The ICP 9145 crop was flourishing with good crop management. High yields are expected.</p> <p>Approximately 27 t of pods were realized (14t from Chitedze and 12.95t from Chitedze).</p>
<p>2. To increase awareness of the value of improved varieties in enhancing the production of groundnut and pigeonpea among smallholder and commercial farmers through on-farm demonstrations.</p>	<p>Conduct on-farm demonstrations and farmer field days for NASFAM, PLAN International, and World Vision Malawi.</p>	<p>-Demonstration of new varieties at 1,100 locations in Malawi.</p> <p>-18 Field Days were conducted for PLAN International in areas of Kasungu, Mzuzu, and Lilongwe.</p> <p>-Eight Field Days were conducted for NASFAM in areas of Kasungu and Rumphi.</p> <p>-Three Field Days were conducted for World Vision Malawi in areas of Kasungu.</p>	<p>-All demonstrations were very well managed. Groundnuts were nearing maturity.</p> <p>-2,074 farmers attended the field days, 54% of which were women.</p> <p>-308 farmers attended the Field Days. 92 were women.</p> <p>-274 farmers attended the Field Days. Out of this, 92 were women.</p>
<p>3. To strengthen the capacity of DARTS, the Department of Extension and relevant NGOs in transferring groundnut and pigeonpea production through short-term training courses.</p>	<p>Planning for pigeonpea training course.</p>	<p>Arrangements for a pigeonpea training course finalized.</p>	<p>50 participants are expected to attend this course. The venue will be Motel Paradise, Blantyre and the course has been scheduled for 16-20 July 2000.</p>

Conclusion: All planned activities for the period 1 April to 30 June 2000 were accomplished. No major deviations occurred.