

PN-AAN-347
ISN 30157

A Shortcourse Conducted at the
FSDC Area II Training Center
Bulacan Province, Philippines
January/February, 1981

**FARM SYSTEMS MANAGEMENT
PLANNING AND BUDGETING**

Contract No. C-5-32018, The Philippines

Cooperating Institutions

**The Farm Systems Development Corporation (FSDC)
The University of the Philippines at Los Banos (UPLB)
The University of Missouri, Columbia, Missouri (U.S.A.)**

U.S. Agency for International Development

Report Prepared by

Albert R. Hagan, University of Missouri

SHORTCOURSE ON FARM SYSTEMS MANAGEMENT,
PLANNING AND BUDGETING

CONTENTS

	<u>Page No.</u>
Preface.....	iii
Summary.....	1
Time and Location for Shortcourse.....	3
Staff for School.....	3
Training Participants.....	4
Advance Preparation.....	5
Training Schedule.....	6
Evaluation of Students.....	8
Proposed Follow-Up Activities.....	9
Proposal for an Intensive Shortcourse in Farm Systems Management and Planning.....	9
Farm Records and Farm Business Analysis Research Proposal.	11
Proposed Format for Intensive FSDC Staff Training in Missouri.....	11
Appendices:	
A. List of Participants for Training School.....	14
B. Schedule for Training School.....	16
C. Team Assignments for Farm Planning.....	23
D. Summary of 18 Alternative Systems for the Hizon Farm.....	24
E. Revised Budget Forms for Use by FSDC.....	42
F. Proposal for Intensive Six-Day Shortcourse.....	53

CONTENTS (Continued)

	<u>Page No.</u>
Appendices: (continued)	
G. Research Proposal for Farm Business Analysis...	60
H. Proposal for Intensive FSDC Staff Training in Missouri.....	64

Philippines

Shortcourse on Farm Systems Management, Planning and Budgeting

PREFACE

This special shortcourse was conducted at the Area II Training Centre, in Bulacan Province, of the Farm Systems Development Corporation (FSDC) of the Philippines during January/February, 1981. The course was sponsored by the USAID Mission in Manila and USAID/Washington.

Staff members of FSDC, the University of the Philippines at Los Banos (UPLB), and the University of Missouri, Columbia, cooperated in planning and conducting the shortcourse.

Enrollment for the course included 5 staff members from each of the six FSDC area training centers and 10 members of the central FSDC staff in Manila, a total of 40 participants.

Primary emphasis for the training was the application of the "Farm Systems Approach" in working with farm families with small farm units and very limited resources. The purpose of the course was to teach a methodology, and associated subject matter, for planning alternative systems of management and operation for small farms and for evaluating, in advance, the economic consequences of each alternative.

The purpose of this report is to explain how the shortcourse was planned, organized and conducted and to suggest modifications and follow-up activities which might enhance future training.

While the shortcourse was oriented to the unique needs of the FSDC in the Philippines, it was designed for easy adaptation to conditions in other countries.

SHORTCOURSE ON FARM SYSTEMS MANAGEMENT,
PLANNING AND BUDGETING^{1/}

Report of Training Activities

Summary

Initial planning for this special training shortcourse was started in the fall of 1979 when Dr. Fred Mann and Dean J. Wendell McKinsey, University of Missouri, Columbia (UMC), conferred with staff members of the FSDC and the USAID Mission in Manila. More detailed plans were formulated in July, 1980, when Dean McKinsey, Dr. Donald Osburn, and Dr. Albert Hagan consulted with members of USAID and FSDC staffs in Manila.

The overall purpose of the shortcourse was to provide special training and experience for staff members of the Farm Systems Development Corporation (FSDC), both from the Central Office in Manila and the six Area Offices, in applying the "Farming Systems Approach" in working with small farmers and their families--an approach to which the Corporation already was fully committed.

Special attention first was given to a review of basic principles in management and planning concepts, in appropriate economic theory, and in crop and livestock enterprise characteristics and their combinations in farming systems--along with development of income-over-cost budgets (blocks) for such enterprises.

The central core of the course was an intensive 3½ day period devoted to specific analytical procedures and methodologies for evaluating the

¹ Assistance with this Philippine training program was provided by University of Missouri, Columbia, staff members--Dr. Albert R. Hagan and Dr. Donald Osburn--was arranged through the USAID Mission in Manila and USAID Washington under Contract No. _____, with the University of Missouri, Columbia.

economic consequences of alternative farming systems for small, individual farms. For this part of the training, the two-hectare farm unit of the Danilo Hizon family near the training center was chosen as a "Practice Farm" for planning and evaluating alternative farming systems. The 39 participants were divided into 18 planning teams, each of which evaluated a different system for the Hizon farm.

A presentation and discussion of all the plans revealed striking differences in the productivity and profitability of the alternative systems. Farm profits ranged from ₱ 2,937 for the least profitable system to an annual profit of ₱ 22,983 for the most profitable plan. Lowest return to investment capital was 5.35 percent for one system, in contrast with the highest return of 42 percent per year. Net cash available to the family varied from a shortage of ₱ 10,125 to meet family needs to a high of ₱ 11,898 above all estimated needs for fixed family obligations and needs.

This section of the training course was concluded with a discussion of procedures and management "tools" to expedite implementing of plans and a one-day training period on farm business analysis.

The Central Staff of FSDC added another week of intensive training in rice-based multiple cropping in lowland rice paddies, in communication skills, and in planning for future implementation of programs. This added training supplemented, and complemented, the farm management and planning training and economized on travel costs since the Area Staff members came from all over the Philippines.

Further details about the conduct of the school, the evaluation of performance, and proposals for follow-up activities are outlined below and in appendix attachments.

Time and Location of Shortcourse

The shortcourse was conducted from January 19 to February 6, 1981, at the new Area II Training Center near Angat in Bulacan Province. The Center is located about 72 kilometers north of Manila.

The section of the training course related to farm management and planning farming systems covered the 7-day period from January 21 through January 28. Evaluation of this phase of the training program was conducted by staff members during follow-up training.

Staff for School

The planning and conduct of the training school was a joint effort by staff members of the Farm Systems Development Corporation (FSDC), the University of the Philippines at Los Banos (UPLB), and the University of Missouri at Columbia, Missouri (UMC), both for the initial planning in July, 1980, and the follow-up in January, 1981. Key personnel from UPLB were Dr. Arturo Gomez, Professor of Agronomy, and Dr. Tirso B. Paris, Jr., Chairman of the College of Development Economics. Both are consultants to assist FSDC in development programs, and assisted in planning the details of the shortcourse. They also assigned members of their staffs to assist with different phases of the training. Dr. Gomez also lectured to the group on the farming systems approach during a visit to UPLB and IRRI on January 31 and February 1.

FSDC staff members who assisted with teaching and conduct of the school at the Training Center were as follows:

Sylvester B. Respicio--Division Head, Economics and Finance Unit

Rogelio L. Ragus--Project Officer

Hermie Reyes Penales--Training Officer

Amelita N. Cantor--Project Officer

Noel A. Ruiz--Project Specialist

Loida D. Carreon--Project Analyst

Other FSDC staff members who visited during the shortcourse to provide counseling and advice were Teodoro C. Rey, Jr., Administrator; Jose A. Remulla, Director, Research and Development Department; and Manuel C. Lapena, Director, Programs Development Department. Mr. Lapena gave an excellent overview of the FSDC commitment to the farming systems approach during an opening-day speech, on behalf of the Administrator.

UPLB staff who participated in the shortcourse were:

Dr. Arturo Alferez--Agronomist

Dr. Cora Aragon--Assistant Professor, Department of Agricultural Economics

Dr. Romeo Huelgas--Instructor, Department of Agricultural Economics

Mr. Reynaldo Santos--Research Associate, Department of Agronomy

Dr. Basilio Mabbayad--Associate Professor, Department of Agronomy

Mr. Julian Lapitan--Ministry of Agriculture

UMC staff members who assisted in planning and conducting the short-course were:

Dr. Albert R. Hagan, Emeritus Professor of Agricultural Economics

Dr. Donald Osburn, Professor, Agricultural Economics

Training Participants

A total of 39 participants were enrolled for the training school. The 39 in attendance included 10 from the Central FSDC office in Manila and 5 each from Areas I, II, III, IV, V and 4 from Area VI. Appendix A includes the names and positions of all enrollees.

All participants are college graduates, specializing in agriculture

and related fields. The class was about equally divided between male and female participants.

Advance Preparation

Preliminary ideas for the special training school were discussed with staff members of FSDC and the USAID mission in Manila by Dr. Fred Mann and Dean J. Wendell McKinsey from UMC during a visit to the Philippines in the fall of 1979. More detailed plans were formulated by Dean McKinsey, Dr. Hagan and Dr. Osburn during a follow-up visit in July of 1980. They were developed more fully by correspondence during the next few months.

Dr. Hagan arrived in Manila a week in advance of the shortcourse, on January 11, to assist in finalizing arrangements. During this time, initial planning conferences with staff members of USAID mission and FSDC were held. One day was spent in conferring with Dr. T. B. Paris, Jr., and Dr. A. Gomez at UPLB to discuss teaching assignments and other arrangements.

One day also was spent with Sylvester Respicio on a trip to the Area II Training Center in Bulacan Province to get acquainted with training facilities and to visit farms for use in the fieldwork phase of farm planning activities. A visit with one nearby farmer, Fernando Roberto, resulted in data collected for two small-scale enterprise budgets--one for broiler production and one for pig production. The broiler enterprise includes two batches (100 per batch) each two months; 12 batches per year. The pig enterprise includes 2 brood sows, producing 2 litters each per year, with an average of 10 pigs per litter. One sow had farrowed a litter of 12 just prior to the class visit on January 24. Since Mr. Roberto had detailed records of investments, costs and returns, very useful budgets materialized from the visit.

One of Mr. Robertc's neighbors, Mr. Danilo Hizon, agreed to the use of his farm as a "practice" farm for farm planning activities. During the next few days one of the Area II Training Assistants, Ed Perez, visited with the Hizon family to get all the farming and family living data needed for planning activities.

The rest of the first week was spent with FSDC staff members in preparing materials for the school.

After Dr. Osburn's arrival on January 17, plans were reviewed on Saturday and a trip was made to Los Banos on Monday with Mr. Respicio to confer again with Dr. T. Paris, Dr. Gomez, and other UPLB staff members on sharing of teaching responsibilities.

Training Schedule

Very thorough overall logistics for the training school had been made well in advance by FSDC, including detailed plans for lodging, food services, classroom facilities, recreation, etc. for the participants and staff. Hermie Reyes Penales and Loida Carreon were primarily responsible but had close cooperation from Manuel Gaspay, Area II Manager and members of his staff.

This "Logistic and Administrative Support" group also provided for pre-testing participants and for exams following each course segment. They also arranged for evaluation by participants, both written and verbal, of each speaker's presentation in order to get feed-back suggestions for later appearances.

A detailed schedule for each day of the school was prepared well in advance but several changes were necessary as plans progressed. While minor adjustments were needed as the course progressed, the Training Schedule included in Appendix B is a close approximation of the course

as conducted.

Participants were grouped into 18 work teams for the practicum portions of the course. Experience has shown that teams of two, working together, result in more effective learning than either individual work or larger work groups. Appendix C identifies the 18 teams.

A primary objective of the training course was to teach the Block Budgeting (comparative budgeting) process for making economic evaluations of alternative farming systems. Actual experience in working through the analytical procedures was preceded by detailed instructions in planning principles and methodology--including a 10-step format for the planning process. Then, work sheets to help organize calculations for each step of the process were explained.

Following the above, each participant team had opportunity to work through the analytical process 3 times during the farm planning section of the course.

First, typical data for a hypothetical farming system were given to all teams. After all comparative economic measures were calculated for the system, analyses were reviewed until each team agreed on the value for every measure.

A second planning task included analysis of the "Present" system for the Danilo Hizon "Practice" farm. For this assignment, all teams worked on the same analysis--a projection of the Hizon family 1980 system as a model for future operation--the basic system for comparisons. For these calculations, all of the 1980 resources, production, family food consumption, living costs, and balance sheet data were used to represent the "Present" plan. But, the long run enterprise budgets--as used for all other systems evaluated--were used in calculating all economic measures

for this plan, rather than using either 1980 or current price and cost data. All teams adjusted calculations to reach agreement on all measures.

A third opportunity to work through the analytical process was provided when each team was assigned a different longrun plan to evaluate. After all calculations were completed, all 18 teams put the key comparative measures calculated for their systems on large blackboards for presentation and discussion.

Performance data for the different systems--involving various combinations of crop and livestock enterprises--were strikingly different, as pointed out in the summary statement and in Appendix D, which includes a summary of data for the "Present" system projected and for the 18 alternative systems.

Minor revisions were made in the UMC block-budgeting worksheets which were used in the planning. Some additional modifications could be made to simplify calculations and to expedite the planning process without detracting from the validity of evaluations. A set of revised budget forms for consideration is included in Appendix E.

The follow-up phase of the farm planning and management training involved explanation of other management "tools" and procedures helpful in implementing and adjusting longrun plans. The topics covered are shown in the "Training Schedule" in Appendix B.

Overall, the performance of participants for this section of the training was considered to be exceptionally good.

Evaluation of Students

Instructors were very favorably impressed by the performance of the participants in this training course. Their attitude and diligence in working on assignments were outstanding.

FSDC staff members have established high-level expectations for student performance. A numerical score of 90, or above, has been chosen as the cut-off point between satisfactory or unsatisfactory work. Grades were established for quizzes given throughout the course and for the final exam given the day before the course ended. While UMC staff members have assisted in preparing exam questions, the responsibility for grading and student ratings was assumed by FSDC staff members.

From the writer's viewpoint, this has been one of the most enjoyable and effective shortcourses conducted during a long experience in working with such groups. High performance was the standard in classroom work, field trips, and extra-curricular activities.

Proposed Follow-Up Activities

As a result of experiences with this shortcourse, several ideas have emerged for follow-up activities which might be helpful to FSDC in expediting and expanding farm systems work with ISA members in the six development areas. One, already mentioned, are some revisions in budgeting forms as earlier mentioned.

Three other proposals relate to the goals of FSDC to expand the farming systems work with small farmers and their families more rapidly and to establish confederations of ISAs within provinces as cooperatives which could serve ISA members in numerous ways.

Each proposal will be described briefly.

Proposal for an Intensive Shortcourse in Farm Systems Planning and Management

This proposed course is a modification of the one just concluded. It would give somewhat more attention to the practicum and somewhat less to theoretical training. It probably would be somewhat more effective in

training Project Officers, Research Assistants, IOs, and other field workers within areas. It could be more easily adapted to shortcourses for farmers.

This shortcourse is designed for a 1-week period and might be condensed somewhat more. It probably could be adjusted more readily for use in other countries where fewer professional workers are available to assist.

An outline of the course content and chronology for its conduct is included as Appendix F.

Another follow-up activity under consideration is the conduct of Area Training Schools for IOs and other area workers in the Philippines. A tentative schedule was to consider such schools in the June-July period of 1981, with Drs. Hagan and Osburn assisting.

An alternative procedure is suggested. This would involve special training of small groups of IOs (probably not more than 5 to 10 in a group) by Central Office staff members who have completed the present training--such as Rogelio Ragus, Noel Ruiz, Hector Cariaga, Amelita Cantor, Mercy Alcoriza and others. They probably could work best as teams in this endeavor, which might be tried in different areas during the next few months.

This procedure would have several advantages:

1. Central Office staff personnel who have had the current training would gain more experience and confidence in using the farming systems approach by assuming full responsibility for training small groups;
2. Work with such small groups would help reveal shortcomings in the current procedures and worksheets; and
3. The reactions of field staff members who work closely with farmers, as

well as their observations and suggestions, would be very valuable in more realistic revisions of shortcourse procedures.

If ideas from these various sources were well-documented during the next several months, a more practical and usable shortcourse procedure surely could be developed.

If such a procedure were followed, and if it seemed desirable, Drs. Hagan and Osburn probably could return in early 1982 to help perfect short-course procedures and to assist with one, or more, intensive area training schools.

Farm Records and Farm Business Analysis Research Proposal

This proposal, prepared by Dr. Osburn, is designed to help monitor and analyze the farm business performance data needed over time to help measure farm business adjustments. The data would be very useful in making year-by-year adjustments in enterprise budgets and in analyzing the impact of investments.

This proposal is summarized in Appendix G.

Proposed Format for Intensive FSDC Staff Training in Missouri

This proposal relates to 3 major thrusts for future development of FSDC efforts in working with small farmers to improve their productivity and economic well-being: (1) Expansion of the Farm Systems approach through more thoroughly trained staff members; (2) Establishment of well-managed cooperatives, through Provincial Federations of ISAs to provide services not now available--such as grain drying, product processing, storage, purchasing inputs, marketing products more effectively, etc.; and (3) Arranging for more adequate credit services, especially for oper-

ating credit, to enable small farmers to add highly profitable supplemental enterprises--such as broiler, pig, goat, and cattle-feeding units--which would utilize their family labor and other resources more fully and profitably.

This proposal would provide for intensive training for carefully selected FSDC staff members in the Central Office, and perhaps area offices, in all three of the above areas. The proposal, as outlined in Appendix H, would provide this kind of intensive training in Missouri through a 3- to 6-week training period. The longer-term period also would allow time for a week of orientation in Washington, D.C., if this seems desirable.

Missouri seems uniquely qualified to consider this type of cooperative training with FSDC, and under possible USAID sponsorship, for several reasons:

1. Several UMC staff members already have established working relationships with FSDC, UPLB, and IRRI and have some first-hand knowledge of country conditions--including Dr. Hagan, Dr. Osburn, Dr. Mann, Dean McKinsey, Don Esslinger, Dr. Milton Poehlman, and others;
2. Missouri probably has more staff members who have long experience in applying the farm systems approach in working with limited resource farm families than any state in the United States--and currently has several staff members and para-professionals, working full-time with small, low-income farmers under a special program;
3. The Sixth District Farm Credit Banks are located in St. Louis, Missouri, (serving Missouri, Illinois, and Arkansas and including the Federal Land Bank, the Federal Intermediate Credit Bank, and the Bank for Cooperatives) and UMC staff members (such as Hagan, Osburn, McKinsey and others) have had excellent working relationships with them through many years in conducting workshops, training schools, record programs, and other activities;
4. Missouri has an excellent state-wide network of cooperative credit institutions--Federal Land Bank Associations (FLBAs) and Production Credit Associations (PCAs)--whose officers have cooperated with UMC staff members through many years in various workshops and activities;
5. UMC has close working relationships with staff personnel at the state and county levels of the Farmers Home Administration which provides loans under special credit programs for low-income, small farmers;

6. Similar relationships exist with many commercial rural and agricultural banks throughout the state;
7. The MFA (Missouri Farmers Association) is one of the largest region-wide cooperatives in the United States with Central Offices in Columbia, with associated large-scale processing, storage and marketing facilities in key locations throughout the state, and with a network of affiliated small, farmer-owned cooperatives distributed throughout Missouri--much like ones which might be established by ISA Federations; and
8. Farmland Industries, one of the largest farmer-cooperatives in the United States, is located in Kansas City and has excellent training facilities and programs.

UMC staff members have close working relationships with top officials in all these institutions and should have no difficulty working out joint arrangements for training as needed.

Drs. Hagan, Osburn, Mann, and McKinsey will be pleased to explore the possibilities for implementing any of these proposals which seems desirable.

APPENDIX A

NAMES OF TRAINING PARTICIPANTS FOR FARM SYSTEMS MANAGEMENT, PLANNING AND BUDGETING SHORTCOURSE
 JANUARY 19 TO FEBRUARY 6, 1981
 BULACAN PROVINCE, PHILIPPINES

	Office/Area	Educational Attainment	Age	Position
1. Hector Cariaga	CO	B.S. Agricultural Engineering	29	Project Specialist
2. Noel Ruiz	-do-	B.S. Fisheries (Bus. Managem.)	21	Project Specialist
3. Cracioso Balacuit	-do-	B.S. Agricultural Engineering	23	Project Specialist
4. Mar Samar	-do-	B.S. Agriculture (Agronomy)	23	Project Specialist
5. Amelita Cantor	-do-	B.S. Fisheries (Aquaculture)	28	Project Officer II
6. Engie Branuevo	-do-	B.S. Agricultural Economics	26	Program Officer D
7. Mina Lantican	-do-	-do-	26	-do-
8. Delia Basbas	-do-	B.S. Agriculture (Soils Sc.)	23	Research Analyst I
9. Mercedes Alcoriza	-do-	B.S. Agriculture (Animal Sc.)	23	Research Analyst
10. Zenaida de la Cruz	-do-	B.S. Commerce (Marketing)	22	Research Assistant B
11. Yolanda P. Roxas	Area I	B.S. Agricultural Engineering	24	Research Analyst
12. Bernabe Manongdo	-do-	B.S. Agriculture	24	Research Assistant
13. Eladio Duran	-do-	B.S. Agricultural Engineering	22	Research Analyst
14. Fe Corazon Dantis	-do-	-do-		Research Analyst A
15. Juan Jamias, Jr.	-do-	-do-	24	Construction Supervisor
16. Victoria Velarde	Area II	B.S. Agriculture	24	Research Analyst A
17. Mary Ann Valdez	-do-	-do-	23	-do-
18. Ulysses Bantang	Area II	B.S. Agriculture (Animal Husb.)	27	-do-
19. Juanito Zinampan	-do-	-do-	25	Research Analyst B

APPENDIX A Continued

	Office/Area	Educational Attainment	Age	Position
20. John Galace	-do-	B.S. Agriculture		Project Assistant III
21. Ma. Teresa Orulfo	Area III	B.S. Agricultural Engineering	24	Project Assistant I
22. Lourdes Diesta	-do-	B.S. Agriculture (Agronomy)	23	Research Analyst A
23. Nelson Caceres	-do-	-do-	33	Research Analyst A
24. Alice Perez	-do-	-do-	23	Project Assistant I
25. Harley Amoranto	-do-	B.S. Agriculture (Agronomy)	23	Research Analyst
26. Marie Josephine Janobas	Area IV	B.S. Agriculture	22	-do-
27. Corazon Declaro	-do-	-do-	23	Research Assistant B
28. Ludito Masigon	-do-	-do-	23	Research Assistant
29. Mila Montano	-do-	-do-	23	Project Analyst A
30. Nonilyn Adonacion	Area V	B.S. Agriculture (Entomology)	24	Research Analyst B
31. Esterlinda Edullantes	-do-	B.S. Agriculture (Soil Sc.)	24	Research Assistant B
32. Remegio Garilva	-do-	B.S. Agriculture (Entomology)	29	Project Officer A
33. Tomanito Lee	-do-	B.S. Agriculture (Animal Sc.)	28	Research Analyst A
34. Nilo Labayan	-do-	B.S. Agricultural Economics	22	Project Assistant III
35. Lourdes Enriquez	Area VI	B.S. Agriculture	24	Research Analyst III
36. Edorne Ocupe	-do-	B.S. Agriculture	24	Research Analyst B
37. Roland Acompanado	-do-	B.S. Agricultural Engineering	27	Project Manager B
38. Rodrigo Baguio	-do-	-do-	27	-do-
39. Merlyn Sales	Area IV	B.S. Agriculture (Agronomy)	23	Research Assistant

APPENDIX B

SCHEDULE OF ACTIVITIES: FARM SYSTEMS MANAGEMENT, PLANNING AND BUDGETING SHORTCOURSE
(CONDUCTED AT AREA II TRAINING CENTER IN BULACAN PROVINCE, PHILIPPINES, 1981)

Date/Day	Module	Content	Time	Staff Responsibility
January 19 (Monday)		Arrival/Registration/Acquaintance	9:00- 6:00	Loida Carreon/FSLC Hermie R. Penales/FSDC
January 20 (Tuesday)	I	Introduction/Pre-Training Questionnaire	9:00-10:30	-do-
		B R E A K	10:30-10:45	
		Surfacing of Expectation	10:45-12:00	
		FSMPBT Overview--Discussion on Training Design	1:00- 2:00	Hermie R. Penales/FSDC (Farm Systems Development Corporation)
		Organizing the Learning Community/ Training House Guidelines	2:00- 3:00	-do-
		B R E A K	3:00- 3:30	
		Integration/Review of Materials for the Following Day's Session	3:30- 6:00	Participants
January 21 (Wednesday)	II	Introduction to Farm Management and Planning Principle	9:00-12:00	Dr. A. Hagan/UMC (University of Missouri)
	III	Factors and Principles Affecting Enterprise Selection		

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility
		A. Technical and Socio-Economic Consideration Data for Enterprise Selection	1:00- 6:00	Dr. A. Alferez/UPLB (University of Philippines at Los Banos)
		Integration/Review for the Following Day's Session and Assignments		
January 22 (Thursday)		Review of Economic Principles and Concepts Affecting Farm Planning	9:00- 6:00	UPLB
		Farm Planning		
		Input-Input Relationship Input-Output Relationship Cost Concepts Concepts on Demand and Supply		Dr. Cora Aragan/UPLB Dr. Don Osburn/UMC
		Integration and Review for the Following Day's Session and Assignments		
January 23 (Friday)	IV	Whole Farm Planning--Organizing the Farm System		
		1. Whole-Farm Budgeting		
		a. General Principles and Methodologies/Steps in Planning	9:00-12:00	Dr. A. Hagan/UMC
		b. The "Block Budgeting" Process		
		c. Explanation of Enterprise Budgets		

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility
		2. Whole-Farm Planning		
		a. Explanation of Planning Forms and Procedures (Illustration of Procedures)	1:00- 2:30	-do-
		b. Team Assignments	2:45	
		c. Team Work--Practices in Analyzing a Farming System	3:00- 5:00	-do-
		d. Discussion of Analyses	5:00- 6:00	Noel Ruiz/FSDC
January 24 (Saturday)	IV (cont.)	1. Farm Visit--To Gather Information and Observation for Farm Planning Farms--a. Danilo Hizon b. Roberto Fernando	8:00-12:00	Staff/Participants
		2. Team Work: Evaluate Longrun Potential for "Present System" on "Practice Farm" (Danilo Hizon)	1:00- 3:00	-do-
January 26 (Monday)	IV (cont.)	1. Team Work: Planning and Evaluating Alternative System for "Practice" Farm	9:00-12:00	Dr. A. Hagan/UMC Staff/Participants (18 Planning Teams-- 2 Members Each)
		2. Presentation and Discussion of Alternative Plans ("Present" System (Models) Evaluated and Compared for the Danilo Hizon Farm)	1:00- 6:00	Staff/Participants Dr. A. Hagan/UMC Noel Ruiz/FSDC Roger Rogas/FSDC

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility	
January 27 (Tuesday)	IV (cont.)	1. Review of Budgeting Procedure-- Group Discussion and Suggestions for Adjusting Procedures	9:00-12:00	Dr. A. Hagan/UMC Staff/Participants	
		2. Implementing Longrun Farm Plans			
		a. General Suggestions	Dr. A. Hagan/UMC		
		b. Other Management Tools for Im- plementing and Adjusting Farm Plans		1:00- 6:00	UPLB
		1. Annual Budgets			
2. Cash-Flow Budgets	Dr. Don Osburn				
3. Partial Budgets					
January 28 (Wednesday)	V	Farm Business Analysis	9:00- 6:00	UPLB	
		A. Farm Record Keeping--Importance of Records and Skills Needed			
		B. Principles and Types of Farm Record Keeping Systems			
		C. Record Analyses			Dr. Romeo Huelgao
		1. Balance-Sheet Analysis			
2. Profit and Loss Analysis					
D. Coordination of Records to Farm Plans					

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility	
January 29 (Thursday)	VI	E. Enterprise Records and Analysis	<div style="display: flex; align-items: center; justify-content: center;"> <div style="font-size: 3em; margin-right: 10px;">}</div> <div style="text-align: center;"> <p>9:00-10:00</p> <p>10:15-12:00</p> <p>1:00- 3:00</p> </div> </div>	Dr. Romeo Huelgao	
		F. Integration (Review and Discussion)		Dr. Don Osburn/UMC	
		G. Analysis of Investments		<ol style="list-style-type: none"> 1. Principles and Guidelines 2. Analytical Procedures 	
		H. Use of Credit in Farm Business		<ol style="list-style-type: none"> 1. General Principles and Guidelines 2. Alternative Credit Source 	
		I. General Review of Module II-V		Overview of Rice-Based Multiple Cropping in Lowland Rice Paddies	
		S N A C K		1. The Traditional Rice Culture	
		L U N C H		2. New Technologies in Rice Multiple Cropping	
		a. Varietal Improvement		S N A C K	

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility
		- Continuation -	3:15- 6:00	
January 30 (Friday)		b. Direct Seeding, Rice Garden, Sorjan	9:00-10:50	Dr. Basilio Mabbayad
		S N A C K		
		- Continuation -	10:15-12:00	
		c. Minimum Input	1:00- 3:00	Rogelio L. Ragus
		S N A C K		
		3. Determinants to Cropping Pattern in Lowland Rice	3:15- 6:00	Dr. Basilio Mabbayad
		a. Water Availability, Soil Properties, Market		
January 31 (Saturday)		Field Trip (UPLB)		
February 2 (Monday)		4. Some Important Cropping Patterns	9:00-10:30	Dr. Arturo Gomez
		S N A C K	10:30-10:45	
		- Continuation -	10:45-12:00	
		L U N C H	12:00- 1:00	
		5. The Incremental Plan	1:00- 3:00	Dr. Arturo Gomez

APPENDIX B Continued

Date/Day	Module	Content	Time	Staff Responsibility
		S N A C K		
		- Continuation -	3:15- 6:00	
February 3 (Tuesday)		6. Technology Verification	9:00-12:00	Reynaldo Santos Nestor Lawas
		7. Technology Dissemination	1:00- 3:00	Julian Lapitan
		S N A C K		
		Examination	3:15- 6:00	Rogelio Ragus
February 4 (Wednesday)	VII	Training and Communication Skills	9:00- 6:00	Staff
February 5 (Thursday)	VIII	Re-Freezing/Preparation of Plans for Implementation	9:00- 6:00	Staff/Participants
		Evaluation of FSMPBT		
February 6 (Friday)		Continuation of Evaluation of FSMPBT	A.M.	
		Graduation	P.M.	

APPENDIX C

FARM SYSTEMS MANAGEMENT, PLANNING AND BUDGETING SHORTCOURSE--
January-February, 1981
Bulacan Province, Philippines

PARTICIPANT TEAM ASSIGNMENTS

<u>Team 1</u> Mila Contano Noel Ruiz	<u>Team 2</u> Amy Cantor Nelson Caceres	<u>Team 3</u> Corazon Declaro Hector Cariaga
<u>Team 4</u> Ma. Josephine Janobas Grash Balacuit	<u>Team 5</u> Engie Branuevo Tom Lee	<u>Team 6</u> Delia Basbas J. B. Jaias, Jr.
<u>Team 7</u> Mercy Alcoriza Ely Duran	<u>Team 8</u> Yolly Roxas John Galace	<u>Team 9</u> Zeny de la Cruz Lourdes Enriquez
<u>Team 10</u> Fe Corazon Dentis Harley Amaranto	<u>Team 11</u> Vicky Verlarde Rem Garilva	<u>Team 12</u> Esterlinda Edullantes Ulysses Bantang
<u>Team 13</u> Edorne Ocupe Nito Zinampan	<u>Team 14</u> Thess Orolfo Roland Acompañado	<u>Team 15</u> Lourdes Diesta Nilo Labayan
<u>Team 16</u> Alice Perez Rodrigo Baguio	<u>Team 17</u> Nolilyn Adonacion Ludito Masigon	<u>Team 18</u> Merlyn Sales Bernie Manongdo

APPENDIX D

SUMMARY OF 18 ALTERNATIVE FARMING SYSTEMS FOR
THE DANILO HIZON FARM (2-HECTARE UNIT)

All of the following farming system plans were developed and evaluated by 18 participant planning teams enrolled in the Farm Systems Management, Planning, and Budgeting Shortcourse conducted in January to February, 1981, at the FSDC Area Training Center in Bulacan Province, Philippines.

TEAM #1: Mila G. Montano and Noel Ruiz

I. CROP: Rice only

- II. ASSUMPTIONS:
1. Crop Area: 2 hectares
 2. Cropping Calendar: June-September
 3. Labor Rates: a. Hired Labor: ₱ 12.00/MD
b. Family Labor: 100.00/month
 4. Farm Profile: Farmer: Rice Farmer/Grower
Farm: Rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #1
1. Investment Capital (₱)	54,910	54,910
2. Labor Requirement (MD)	378	189
3. Income Over Variable Cost	13,325	8,150
4. Unallocated Cost (₱)	3,716	3,625
5. Net Cash Income (₱)	9,609	4,525
6. Farm Business Profit (₱)	7,138	2,054
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	5,537
9. Return to Capital	8,020	2,937
10. % Return to Capital	14.7%	5.35%
11. Return to Labor & Management	4,031	(1,052)
12. Return to Labor/Month	153	(40.45)
13. Return to Labor Management	1,431	(3,652)
14. Net Cash Available	(5,041)	(10,125)

TEAM #2: Nelson Caceres and Amelita Cantor

I. CROP: Rice - Fish - Green Corn

- II. ASSUMPTIONS:
1. Crop Area: 2 hectares
 2. Cropping Calendar: Rice-Fish, May-September
Corn, October-January
 3. Labor Rates: a. Hired Labor: ₱ 12.00/MD
b. Animal Day: ₱ 13.00/day
 4. Farm Profile: Farmer: Rice/Vegetable Farmer
Farm: Rainfed lowland with supplementary deep well

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #2
1. Investment Capital (₱)	54,910	54,910
2. Labor Requirement (MD)	378	354
3. Income Over Variable Cost	13,325	23,512
4. Unallocated Cost (₱)	3,716	4,076
5. Net Cash Income (₱)	9,609	19,436
6. Farm Business Profit (₱)	7,138	16,965
7. VFP	3,483	1,840
8. Total Farm Profit	10,620	18,805
9. Return to Capital	8,020	16,205
10. % Return to Capital	14.7%	29.51%
11. Return to Labor & Management	4,031	16,059
12. Return to Labor/Month	153	618
13. Return to Labor Management	1,431	13,459
14. Net Cash Available	(5,041)	4,786

TEAM #3: Corazon de Claro and Hector Cariaga

- I. ENTERPRISES:
- a. Crop: Rice - Fallow
 - b. Livestock: Broilers (100 heads (2 batches) batch produced 5 times per year)

- II. ASSUMPTIONS:
- a. Crop Area: 2 hectares
 - b. Cropping Calendar: June-September
Broilers: October-December, January-March, April-June
 - c. Labor Rates: a. Family Labor: ₱ 100/month
b. Hired Labor: ₱ 12/day

TEAM #3: continued

II. ASSUMPTIONS: d. Farm Profile: Farmer: Rice Grower
Farm: Rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #3
1. Investment Capital (P)	54,910	55,410
2. Labor Requirement (MD)	378	233
3. Income Over Variable Cost	13,325	11,541
4. Unallocated Cost (P)	3,716	2,937
5. Net Cash Income (P)	9,609	8,604
6. Farm Business Profit (P)	7,138	9,516
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	9,516
9. Return to Capital	8,020	6,916
10. % Return to Capital	14.7%	12.5%
11. Return to Labor & Management	4,031	2,867
12. Return to Labor/Month	153	(110.3)
13. Return to Labor Management	1,431	267
14. Net Cash Available	(5,041)	(6,176)

TEAM #4: Mary Josephine Janobas and Gracioso P. Balacuit

I. CROPPING SYSTEM: Rice - Rice - Corn

II. ASSUMPTIONS: a. Rice-2 hectares-June to September
b. Rice-2 hectares*-October to January
c. Corn-2 hectares-February to April
d. Labor Rates: P 12.00/day
e. Farm Profile: Farmer: Rice/Vegetable Grower
Farm: Rainfed lowland with supplementary deep well irrg.

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #4
1. Investment Capital (P)	54,910	54,910
2. Labor Required (MD)	378	450
3. Income Over Variable Cost (P)	13,325	20,160
4. Unallocated Cost (P)	3,716	4,320
5. Net Cash Income (P)	9,609	13,487
6. Farm Business Profit (P)	7,138	11,016
7. VFP	3,483	2,400

TEAM #4: continued

III. ANALYSIS FACTOR: continued	PRESENT SYSTEM	ALTERNATIVE #4
8. Total Farm Profit (P)	10,620	13,416
9. Return to Capital	8,020	10,816
10. %Return to Capital (P)	14.7%	19.7%
11. Return to Labor & Management	4,037	6,827
12. Return to Labor/Month	155	263
13. Return to Management	1,431	4,227
14. Net Cash Available	(5,041)	(1,163)

*Denote hectare utilization of second and third cropping

TEAM #5: Engie G. Braneuvo and Tom N. Lee

I. CROP/LIVESTOCK MIX

- II. ASSUMPTIONS: Rice (Transplanting):
- a. Crop Area: 2 hectares
 - b. Cropping Calendar: July-October
 - c. Labor Rates: Hired Labor: P 12.00/day (80 MD/ha)
Family Labor: P 100/month (61 MD/ha)

Corn: a. Crop Area: 2 hectares

b. Cropping Calendar: November-January

c. Labor Rates: Hired Labor (P 12/day)
Family Labor P 100/month

Pale Sitao: Crop Area: 2 hectares

b. Cropping Calendar: February-April

c. Labor Rates: Hired Labor: P 12/day (41 MD/ha)
Family Labor: P 100/month (41 MD/ha)

Swine Breeding: a. 2 sows (each producing 2 litters/yr

b. Feed (litters): P 8/week

c. Feed (sow): P 35/week

Farm Profile: Farmer: Vegetable/Rice Grower; Swine Breeder

Farm: Rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #5
1. Investment Capital	54,910	54,910
2. Labor Required (MD)	378	606
3. Income Over Variable Cost	13,325	18,736

TEAM #5: continued

III. ANALYSIS FACTOR: continued	PRESENT SYSTEM	ALTERNATIVE #5
4. Unallocated Costs	3,716	7,150
5. Net Cash Income	9,609	3,777
6. Farm Business Profit	7,138	12,488
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	15,971
9. Return to Capital	8,020	15,331
10. % Return to Capital	14.7%	28.0%
11. Return to Labor	4,031	9,382
12. Return to Labor/Month	155	15
13. Return to Management	1,431	8,742
14. Net Cash Available	(5,041)	309

TEAM #6: J. B. Jamias and D. M. Basbas

I. CROPPING SYSTEM: (low-level technology)

1st crop: rice (direct seeded) - 2 hectares

2nd crop: rice (transplanted) - 2 hectares

3rd crop: mungbean (zero-tillage) - 2 hectares

Livestock: Broilers - 2 batches, 100/batch, produced 5 times a year

II. BASIC ASSUMPTIONS:

a. Crop Area: 2 hectares utilized for 3 croppings

b. Cropping Calendar: wet months: May-October

1st crop: 2nd week May - 1st week September

2nd crop: last week September - 3rd week January

3rd crop: 1st week February - last week April

c. Available Family Labor: 26 months

d. Labor Rates: ₱ 12/MD for family labor

₱ 12/MD for hired labor

e. Farmer: Presently a rice/vegetable grower

f. Farm: Rainfed lowland with supplementary deep well pump; good light textured soil

g. Crop Enterprise: low-input technology

short turn-around period

early maturing varieties

residual soil moisture for upland crop

TEAM #6: continued

II. BASIC ASSUMPTIONS: continued

- h. Livestock: one unit (100 broilers) will occupy separate poultry house, @ ₱ 200 with some locally available materials
additional intermediate term loan (5 years) will be utilized for total variable cost and for constructing poultry house
all labor will come from the family

III. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #6
1. Investment Capital (₱)	54,910	55,310
2. Labor Requirement (MD)	378	620
3. Income Over Variable Cost (₱)	13,325	22,780
4. Unallocated Variable Cost	3,716	7,498
5. Net Cash Income (₱)	9,609	15,282
6. Farm Business Profit (₱)	7,138	12,791
7. VFP	3,483	3,483
8. Total Farm Profit (₱)	10,620	16,274
9. Return to Capital (₱)	8,020	12,626
10. % Return to Capital	14.7%	22.8%
11. Return to Labor & Management	4,031	9,637
12. Return to Labor/Month (₱)	155	370
13. Return to Management (₱)	1,431	5,989
14. Net Cash Available (₱)	(5,041)	(158)

TEAM #7: Ely N. Duran and Mercy C. Alcoriza

I. CROP/LIVESTOCK COMBINATION

- a. Crop: 1. Rice - 2 hectares
2. Okra - 1 hectare
- b. Livestock: 1. cattle fat - 2 heads
2. broilers - 2 batches, 100 heads/batch, 4 times per year

II. ASSUMPTIONS:

- a. Cropping Calendar: Rice - July to October
Okra - November to March
Broiler - January to March (1)
April to June (2)
July to September (3)
October to December (4)

TEAM #7: continued

II. ASSUMPTIONS: continued

a. Cropping Calendar: continued

Cattle - September to June

b. Labor Rates: 1 hired laborer - ₱ 100/month

20 MD emergency - ₱ 15/MD

c. Farmer: Rice/Vegetable farmer

d. Farms: Rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #7
1. Investment Capital	54,910	57,335
2. Labor Requirement	378	323
3. Income Over Variable Cost	13,325	16,517
4. Unallocated Cost	3,716	3,780
5. Net Cash Income	9,609	12,737
6. Farm Business Profit	7,138	10,145
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	13,628
9. Return to Capital	8,020	11,028
10. % Return to Capital	14.7%	19.2%
11. Return to Labor	4,031	6,748
12. Return to Labor/Month	155	260
13. Return to Management	1,431	4,148
14. Net Cash Available	(5,041)	(2,543)

TEAM #8: John I. Galace and Yolanda Roxas

I. CROPPING SYSTEM: (low-technology alternative)

1st crop: rice (direct seeded) - 2 hectares

2nd crop: rice (transplanted) - 2 hectares

3rd crop: mungbean (zero tillage) - 2 hectares

II. CROPPING CALENDAR: In accordance with rainfall availability

Month: June July Aug Sept Oct Nov Dec Jan Feb Mar April May

Schedule: Rice, transplanted Rice, direct seeded Mungo
 110-120 days 110-120 days 65-80 days

Status/Soil Type: relatively fertile

Climate: Type I

Irrigation: Rainfed and supplementary irrigation

TEAM #8: continued

II. CROPPING CALENDAR: continued

Main Crop: Rice

Availability of Labor: Assumed as high, whether family labor or hired labor

III. COST-RETURN BUDGET ASSUMPTIONS:

	Rice Direct	Rice Transp.	Mungo
1. Gross Income	4,900	5,600	1,750
2. Variable Cost			
Inputs	615	495	445
Misc.	--	--	--
Total Variable Cost	615	--	--
3. Income Over Var. Cost	3,285	5,105	1,305
Family @ P 12/day	50 MD	61	29
Hired @ P 12/day	56 MD	--	--
Animal @ P 13/day	25 AD	--	--
Animal Days	25	25	25
Total Man-Days	106	107	29

IV. FARM MANAGEMENT OUTPUT:

	PRESENT SYSTEM	ALTERNATIVE #8
1. Investment Capital	54,910	54,910
2. Labor Requirement MD	378	607
3. Income Over Variable Cost	13,325	19,390
4. Unallocated Costs	3,716	5,927
5. Net Cash Income	9,609	13,463
6. Farm Business Profit	7,138	11,192
7. Value Food Product	3,843	3,483
8. Total Farm Profit	10,020	14,675
9. Return to Capital	8,020	11,315
10. % Return to Capital	147.7%	20.6%
11. Return to Labor & Management	4,031	8,086
12. Return to Labor/Month	155	76
13. Return to Management	1,431	4,706
14. Net Cash Available	(5,041)	(1,187)

Net-cash available noted as negative. It could mean debt. However, this is offset by high positive returns from other factors of analysis.

TEAM #9: Zeny dela Cruz and Lourdes Enriquez

I. CROPS: Palay - Okra - Off-Farm Work

II. ASSUMPTIONS: Palay - 2 hectares - July to November

Okra - 1 hectare - December to April

Off-Farm Work: May and June and 2 weeks of July since he hires labor for the Land Preparation of rice which therefore renders him free to do some off-farm work. He earns ₱ 20 per day helping in construction of buildings during his off days from the farm.

Labor Rate: Hired Labor - ₱ 12/day

Family Labor - ₱ 100/month

Farm Profile: Rainfed - lowland with supplementary irrigation from the deep well pumped by a jetmatic 8 Hp gasoline driven motor pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #9
1. Investment Capital	54,910	54,910
2. Labor Requirement (MD)	378	250
3. Income Over Variable Costs	13,325	10,035
4. Unallocated Variable Cost	3,416	3,663
5. Net Cash Income	9,609	6,372
6. Farm Business Profit	7,138	3,901
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	7,834
9. Return to Capital	8,020	4,784
10. % Return to Capital	14.7%	8.7%
11. Return to Labor & Management	4,031	795
12. Return to Labor/Month	155	31
13. Return to Management	1,431	(1,805)
14. Net Cash Available	(5,041)	(7,078)

TEAM #10: Fe Corazon V. Dantis and Harley Amaranto

I. ASSUMPTIONS: Rice - 2 hectares - June to September

Ampalaya - 2 hectares - October to January

Corn - 2 hectares - February to June

Labor Rates: ₱ 12/day for Man Labor

₱ 13/day for Animal Labor

TEAM #10: continued

I. ASSUMPTIONS: continued

Farm Profile: Farmer: Rice and Vegetable Grower

Farm: Rainfed lowland with supplementary deep well pump

II. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #10
1. Investment Capital	54,910	54,910
2. Labor Requirement (MD)	378	442,428
3. Income Over Variable Costs	13,325	28,428
4. Unallocated Variable Cost	3,416	3,857
5. Net Cash Income	9,609	24,571
6. Farm Business Profit	7,138	22,100
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	25,583
9. Return to Capital	8,020	22,983
10. % Return to Capital	14.7%	42.0%
11. Return to Labor & Management	4,031	18,994
12. Return to Labor/Month	155	730
13. Return to Management	1,431	16,394
14. Net Cash Available	(5,041)	9,921

TEAM #11: A. Vicky V. Velarde and B. Rem S. Garilva

I. CROPS: Rice - Corn - Sitae - Broiler (2 batches: 100/batch 5 production/year)

II. ASSUMPTIONS: Crop Area - 2 hectares

Cropping Calendar: Rice - Mid-May to Mid-September

Pole Sitao - Mid-September to 1st week of Feb.

Corn - February to Mid-May

Labor Rate: ₱ 12/MD

₱ 13/Animal Day

Farm Profile: Farm: Owned land - 0.5 hectare

Leased land - 1.5 hectares

Area is rainfed with supplementary deep well irrigation

Farmer: Vegetable Grower

TEAM #11: continued

III. ANALYSIS FACTOR	PRESENT SYSTEM	ALTERNATIVE #11
1. Investment Capital (P)	54,910	55,710
2. Labor Requirement (MD)	378	513
3. Income Over Variable Costs	13,325	20,739
4. Unallocated Variable Cost	3,416	4,045
5. Net Cash Income	9,609	16,694
6. Farm Business Profit	7,138	14,198
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	17,681
9. Return to Capital	8,020	15,081
10. % Return to Capital	14.7%	27.2%
11. Return to Labor & Management	4,031	11,032
12. Return to Labor/Month	155	424
13. Return to Management	1,431	8,432
14. Net Cash Available	(5,041)	1,914

TEAM #12: Esterlinda Edullantes and Ulysses Bantang

I. CROP/LIVESTOCK MIX (for one-year production)

II. ASSUMPTIONS: Crop Area - 2 hectares

Farm Profile - Rainfed with a supplementary of a deep well

a. Rice (low technology)

Cropping Calendar: June to October

Labor Rates: P 12/MD (hired), Family P 100/month

Average Yield: 4 Mt/ha.

b. Watermelon (zero-tillage) - 2 hectares

Cropping Calendar: November to January

Labor Rates: P 15/MD (hired), Family P 100/month

Average Yield: 7.5 Mt/ha.

c. Broiler*: An additional intermediate loan for 3 years at 12% interest per annum (P 360 amount of loan for housing, equipment and labor cost)

2 broiler pens are locally made of indigenous materials

100 heads per batch (2 batches) produced 6 times/year

TEAM #12: continued

II. ASSUMPTIONS: continued

c. Broiler*: 1 hired family labor every day for a period of 45 days in 2 batches

Mortality rate of 97% per batch

A liveweight of 1.5 kg/head at ₱ 15

Total variable cost of ₱ 1,313/batch

d. Hog Fattening (6 month-old): Existing pigpen (3 heads/pen)

Produced twice a year

An average weight of 95 kg/head at 10.9/kg.

Total variable cost amounted to ₱ 795.60/head

1 hired family labor per day

*Lamberto Fernando Enterprise as an example.

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #12
1. Investment Capital (₱)	54,910	55,270
2. Labor Requirement (MD)	378	754
3. Income Over Variable Costs	13,325	27,906
4. Unallocated Variable Cost	3,416	4,008
5. Net Cash Income	9,609	23,898
6. Farm Business Profit	7,138	21,409
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	17,926
9. Return to Capital	8,020	16,726
10. % Return to Capital	14.7%	30.0%
11. Return to Labor & Management	4,031	11,294
12. Return to Labor/Month	155	941
13. Return to Management	1,431	10,094
14. Net Cash Available	(5,041)	11,898

TEAM #13: Edorne Ocupe and Juanito Zinampan

I. ASSUMPTIONS: Crop Area: Rice (low technology) - 2 hectares

Watermelons productive in this area, include 0.5 owned land and 1.5 leased

Farm Profile: Rice/Watermelon farmer and also a skilled carpenter

Farm: lowland - rainfed areas

TEAM #13: continued

I. ASSUMPTIONS: continued

Cropping Calendar: July to October (rice)

November to January (watermelon)

February to May (off-farm work)

Labor Rates: Family and hired laborer area given ₱ 12/MD rate (both applied to rice & watermelon laborers)

Rice Production (low technology) is initiated by using the transplanted method of rice culture. Variety of rice to be used is IR-50--105 days.

Land preparation will be done during the first 2 weeks of July and harvesting will be in the 3rd week of October.

Labor will include 160 man-days of hired labor and 122 MD of family labor.

An estimated cost of inputs of ₱ 990 comprising seeds, chemicals and fertilizers. Without miscellaneous expenses, it will result to a total variable cost of ₱ 990 also.

Gross income less variable cost will result in ₱ 10,210 income over variable cost.

An estimated gross income of rice grains is computed as:

1 cav. = 45 kg. (₱ 1.45/kg.)

85.82 cav./ha. x 2 has. = 171.65 cav.

Total = ₱ 11,200

Land preparation for watermelon production will likely be started on the 4th week of October after harvesting rice. The start of picking fruits for watermelon will be in the later part of January (90 days).

Family labor will consist of 134 man-days at a rate of ₱ 12/MD.

A gross income of ₱ 6,000/ha. will have a total of ₱ 12,000 for 2 hectares in an estimated harvest of 15 metric tons (₱ 0.8/kg.).

Variable costs which are the cost of inputs - ₱ 2,020 and miscellaneous expenses of ₱ 360 will result in total variable costs of ₱ 2,380.

Gross income less total variable costs leaves a total of ₱ 9,620 (income over variable cost).

Since the 2-hectare farm is mainly depending on rain as its source of water, the months of February to May cannot assure any good harvest/output for any suitable crops. The farm owner decided to leave the area vacant for around 4 months to do some carpentry work which will earn him ₱ 140/week, a total of ₱ 2,240 for 16 weeks.

Land preparation will be started during the month of June.

TEAM #13: continued

II. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #13
1. Investment Capital	54,910	54,910
2. Labor Requirement	378	458
3. Income Over Variable Costs	13,325	19,830
4. Unallocated Variable Cost	3,716	3,307
5. Net Cash Income	9,609	16,523
6. Farm Business Profit	7,138	14,052
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	17,535
9. Return to Capital	8,020	14,463
10. Return to Capital (%)	14.7%	26.34%
11. Return to Labor & Management	4,031	10,946
12. Return to Labor/Month	155	43
13. Return to Management	1,431	7,874
14. Net Cash Available	(5,041)	7,013

TEAM #14: Teresa Orolfo and Rolando Acompañado

I. CROP SYSTEMS: Rice and Eggplant

II. ASSUMPTIONS: Rice - 2 hectares - July to November

Eggplant - 2 hectares - January to June

Labor Rates: ₱ 12/MD

Farm Profile: Rice/Vegetable Grower

Farm - rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #14
1. Investment Capital (₱)	54,910	54,910
2. Labor Requirement (MD)	378	361
3. Income Over Variable Cost (₱)	13,325	15,988
4. Unallocated Cost (₱)	3,716	5,114
5. Net Cash Income (₱)	9,609	10,874
6. Farm Business Profit (₱)	7,138	9,403
7. VFP (₱)	3,483	3,483
8. Total Farm Profit (₱)	10,620	11,886
9. Return to Capital (₱)	8,020	9,286

TEAM #14: continued

III. ANALYSIS FACTOR: continued	PRESENT SYSTEM	ALTERNATIVE #14
10. % Return to Capital	14.7%	16.9%
11. Return to Labor & Management	4,031	5,297
12. Return to Labor/Month	155	204
13. Return to Management	1,431	2,697
14. Net Cash Available	(5,041)	(3,776)

TEAM #15: L. Diesta and N. Labayan

I. CROP: Rice - 2 hectares

Corn - 2 hectares

Pole Sitao - 2 hectares

II. ASSUMPTIONS: Crop Area: 2 hectares

Cropping Calendar: Rice - June to September

Corn - Mid-October to December

Pole Sitao - January to May

Labor Rate: ₱ 15/MD

Farm Profile: Farmer - Rice, Corn & Vegetable Grower

Farm - Rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #15
1. Investment Capital (₱)	54,910	54,910
2. Labor Requirement (MD)	378	442
3. Income Over Variable Costs (₱)	13,325	16,440
4. Unallocated Costs (₱)	3,716	3,779
5. Net Cash Income	9,609	12,661
6. Farm Business Profit	7,138	10,190
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	13,673
9. Return to Capital	8,020	11,073
10. % Return to Capital	14.7%	20.0%
11. Return to Labor & Management	4,031	7,084
12. Return to Labor/Month	155	272
13. Return to Management (₱)	1,431	4,484
14. Net Cash Available	(5,041)	(1,989)

TEAM #16: Alice D. Perez and Rodrigo Baguio

I. CROP/LIVESTOCK MIX: Rice - 2 hectares

Eggplant - 2 hectares

Livestock: Swine Fattening - 3 pens (3 heads/batch produced twice a year)

II. ASSUMPTIONS: Crop Area - 2 hectares

Cropping Calendar: Rice - June to September

Eggplant - November to April

Labor Rates: ₱ 15/MD - hired; ₱ 100/month - family labor

Farm Profile: Farmer: Vegetable-Rice Grower

Farm Family Size - 5

Farm: Soil type - sandy loam

Rainfed lowland with supplementary deep well

Climate: Wet Season - May to October

Dry Season - November to April

III. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #16
1. Investment Capital	54,910	54,910
2. Labor Requirement (MD)	378	409
3. Income Over Variable Costs	13,325	20,308
4. Unallocated Costs	3,716	3,856
5. Net Cash Income	9,609	16,452
6. Farm Business Profit	7,138	13,981
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	17,464
9. Return to Capital	8,020	14,864
10. % Return to Capital	14.7%	27.1%
11. Return to Labor & Management	4,031	10,875
12. Return to Labor/Month	155	418
13. Return to Management	1,431	8,275
14. Net Cash Available	(5,041)	1,802

TEAM #17: Nolilyn L. Adonacion and Ludito Masigon

I. CROPS: Rice - Squash - Corn

II. ASSUMPTIONS: Rice - 2 hectares - July to October

Squash - 2 hectares - November to February

Corn - 2 hectares - March to June

TEAM #17: continued

II. ASSUMPTIONS: continued

Labor Needed: Family Labor - 76 days at ₱ 12/MD

Hired Labor - 196 days at ₱ 13/MD

Farm Profile: Farmer - lowland rice-squash-corn grower

Farm - rainfed lowland with supplementary deep well pump

III. ANALYSIS FACTOR:	PRESENT SYSTEM	ALTERNATIVE #17
1. Investment Capital	54,910	54,910
2. Labor Requirement (MD)	378	482
3. Income Over Variable Costs	13,325	21,686
4. Unallocated Costs	3,716	6,103
5. Net Cash Income	9,609	15,593
6. Farm Business Profit	7,138	13,122
7. VFP	3,483	3,483
8. Total Farm Profit	10,680	16,605
9. Return to Capital (₱)	8,070	15,069
10. Return to Capital (%)	14.7%	27.0%
11. Return to Labor & Management	4,031	1,779
12. Return to Labor/Month	155	68
13. Return to Management	1,437	243
14. Net Cash Available	(5,041)	943

TEAM #18: I. B. Manongbo and M. Sales

I. CROPS: Rice - Tomatoes - Eggplant

LIVESTOCK: Goat - 4 head (at ₱ 200/head)

II. ASSUMPTIONS: Crop Area - 2 hectares

Cropping Calendar: Rice - June to September

Tomatoes - December to March

Eggplant - November to April

Labor Rate: ₱ 12/MD

₱ 13/MD

Farm Profile: Family - 5 members

Farmer - Rice & Vegetable Grower

Farm - Rainfed lowland with supplementary deep well pump

TEAM #18: continued

II. ASSUMPTIONS: continued

Pig pen utilized for the housing of goats.

Pastures for goats are free.

Form 6, line 12, 13, 19, and 23 are the same with previous assumptions.

Form 7, line 5, 6, and 7 also same assumptions for the present system.

III. ANALYSIS FACTOR:

	PRESENT SYSTEM	ALTERNATIVE #18
1. Investment Capital	54,910	55,710'
2. Labor Requirement (MD)	378	445
3. Income Over Variable Cost	13,325	20,973
4. Unallocated Costs	3,716	3,869
5. Net Cash Income	9,609	17,104
6. Farm Business Profit	7,138	14,633
7. VFP	3,483	3,483
8. Total Farm Profit	10,620	18,116
9. Return to Capital	8,020	15,516
10. % Return to Capital	14.7%	28.0%
11. Return to Labor & Management	4,031	11,431
12. Return to Labor/Month	155	440
13. Return to Management	1,431	8,831
14. Net Cash Available	(5,041)	2,454

APPENDIX E

COPIES OF REVISED BUDGET FORMS FOR USE
BY FSDC IN THE PHILIPPINES

(Forms Prepared in February, 1981)

- FORM 1 -- Farm Map
- FORM 2 -- Inventory of Resources
- FORM 2A -- Farm Financial Statement
- FORM 3 -- Summary: Farm Investment Capital
- FORM 4 -- Summary: Cropping System
- FORM 5A -- Summary: Livestock System
- FORM 5B -- Value of Farm Produced Family Food (VFP)
- FORM 5C -- Labor Summary
- FORM 6 -- Summary: Capital, Labor, Income and Returns
- FORM 7 -- Summary: Debt Repayment and Available Cash
- FORM 8 -- Estimating Annual Principal and Interest Payments

FSDC
FMPB1

- 43 -
Form 1
FARM MAP

Present System
Alternate No.

Form 2
INVENTORY OF RESOURCES

Name: _____ First of Year 19__

I. FARM ASSETS:

A. FARM LAND:

- 1. _____ ha x ₱ _____/ha = ₱ _____
- 2. _____ ha x ₱ _____/ha = ₱ _____
- 3. Total Land ₱ _____

B. FARM BUILDINGS:

- 1. Barn ₱ _____
- 2. Machine Shed _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. _____
- 8. Others _____
- 9. Total Buildings ₱ _____

C. MACHINERY & FARM EQUIPMENT:

- 1. Tractors & Other Power _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____
- 6. _____
- 7. Carabao _____
- 8. All Other _____
- 9. Total Equipment & Power Units ₱ _____

D. LIVESTOCK:

Kind	No.	Price/Head	Value
1. Cows	_____ x _____	_____	₱ _____
2. _____	_____ x _____	_____	_____
3. _____	_____ x _____	_____	_____
4. _____	_____ x _____	_____	_____
5. _____	_____ x _____	_____	_____
6. _____	_____ x _____	_____	_____
7. _____	_____ x _____	_____	_____
8. _____	_____ x _____	_____	_____
9. Total Livestock			₱ _____

E. FEED, GRAIN, & SEED

Kind	Amount	x Price	= ₱
1. Corn	_____ x _____	_____	_____
2. Rice	_____ x _____	_____	_____
3. _____	_____ x _____	_____	_____
4. _____	_____ x _____	_____	_____
5. _____	_____ x _____	_____	_____
6. _____	_____ x _____	_____	_____
7. _____	_____ x _____	_____	_____
8. _____	_____ x _____	_____	_____
9. Total Feed, Grain Seed			_____

F. OTHER FARM ASSETS:

- 1. _____ ₱ _____
- 2. _____
- 3. Total, Other Assets ₱ _____

Form 2a
FARM FINANCIAL STATEMENT

First of Year 19__

II. SUMMARY OF ALL ASSETS:

A. FARM ASSETS:

- 1. Farm Land (Line A-3, page 1) P _____
- 2. Farm Buildings (Line B-9, page 1) _____
- 3. Farm Equipment (Line C-9, page 1) _____
- 4. Livestock (Line D-9, page 1) _____
- 5. Feed, Grain, & Seed (Line E-9, page 1) _____
- 6. Other Farm Assets (Line F-3, page 1) _____
- 7. Total Farm Assets P _____

B. NON-FARM ASSETS:

- 1. Cash on Hand _____
- 2. Household & Personal Items _____
- 3. Other Non-Farm Investments _____
- 4. Total Non-Farm Assets P _____

C. TOTAL FAMILY ASSETS: P _____

III. LIABILITIES (DEBTS):

A. FARM DEBTS:

- 1. Farm Real Estate Loans P _____
- 2. Notes _____
- 3. Accounts Payable _____
- 4. Other _____
- 5. Total Farm Debts P _____

B. ALL OTHER DEBTS (PERSONAL & BUSINESS) _____

C. TOTAL ALL LIABILITIES P _____

IV. NET WORTH: (LINE II-C -- LINE III-C) P _____

NET WORTH ONE YEAR EARLIER (_____, 19__) _____

CHANGE IN NET WORTH (INCREASE + OR DECREASE -) P _____

LINE	Item and Description	Year to Invest	New Cost	Average Value ¹	Total Value
	(1)	(2)	(3)	(4)	(5)
1	Breeding Livestock: (Show King)				
2	_____ (units) x ₱ _____ /unit =			₱	
3	_____ (units) x ₱ _____ /unit =			₱	
4	Total Breeding Livestock Capital (Line 2 = Line 3)				₱
5	Machinery & Equip. (Present)(Form 2, II-A-3)			₱	
6	Added: ²				
7					
8					
9	Carabao				
10	Total Mach. & Equip. Capital (Lines 5 thru 9)				₱
11	Bldgs. & Facilities (Present)(Form 2, II-A-2)			₱	
12	Added: ²				
13					
14					
15					
16	Total Bldgs. & Facilities Capital (Lines 11 thru 15)				₱
17	Land and Land Improvements ³ (Present) ha. x ₱ _____ /ha. =				
18	Added: ²				
19					
20	Total Land & Land Improvement Capital (Lines 17 thru 19)				₱
21	Total Farm Investment Capital (Sum of Lines 4, 10, 16, and 20)				₱

¹ Present system values for Lines 5 and 11 are depreciated values (such as those on depreciation schedule). For new machinery and equipment added in alternative system, average value equals approximately 1/2 of new cost. For new buildings, fences, and facilities added, average value equals approximately 3/4 of new cost. For non-depreciable items (such as land), average value equals new cost.

² Disinvestment may also be considered in alternative plan. Values of machinery, equipment, facilities, land, etc., not needed in alternative plan are entered as negative figures in Column 4.

³ Does not include value of dwelling, farm buildings, fences, and facilities.

INSTRUCTIONS: FORM 3. FARM INVESTMENT CAPITAL

Use this form to estimate the farm investment capital for your present plan and for each alternative plan considered. Farm investment capital is defined as the average value of intermediate and long-term farm assets owned. Current farm assets (inventories of market livestock, feed, crops; etc.) are not included as farm investment capital.

Average value of breeding livestock units include: investment in the breeding animal (sow, cow, etc.) plus the share of sire and replacement animal per unit. Average value for machinery, equipment, buildings, land, etc., is explained in footnote 1.

Total values (Column 4) are transferred to Form 6 for further analysis.

LINE	Crop & Land Use	Total Ha. ¹	PER ACRE BUDGETS			BUDGET TOTALS			OTHER CROPS DATA		
			Average Yield	Income over variable costs	MDs direct labor	Production	Income over variable costs	MDs direct labor	Crop variety	Fertilizer Needed	
										Kind	Amount/ha.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
						2x3	2x4	2x5			
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

¹ When land is double cropped, list first and second crops separately. Circle acreage of second crop and do not add circled figures in Col. 2.

48

INSTRUCTIONS: FORM 4. CROPPING SYSTEMS

Use this form to calculate total income over variable costs, hours labor, and farm feed production for the cropping system of each plan considered.

Crops and land use are accounted for in Columns 1 and 2. Per hectare crop budget information (Columns 3, 4, and 5) is used to calculate the totals (Columns 6, 7, and 8). Note: interest paid on crop operating capital is part of the variable costs per acre. Per hectare budgets for rented crops should be adjusted for yields and income over variable costs as needed.

On Line 20, sum Columns 2, 7, and 8. Transfer totals of Columns 7 and 8 to Form 6, Line 6.

FSDC Form 5A
 FMPB-5A SUMMARY: LIVESTOCK SYSTEM

LINE	Livestock Enterprise	Total Units	Per Unit Budgets		Budget Totals	
			Income over var. Costs	M.D. Labor Needed	Income over var. Costs	M.D. Labor Needed
	(1)	(2)	(3)	(4)	(5)	(6)
					2x3	2x4
1			P		P	
2						
3						
4						
5						
6	Totals (Sum of Lines 1 thru 5)				P	

FSDC Form 5B
 FMPB-5B VALUE OF FARM PRODUCED FAMILY FOOD (VFP)

LINE	Food Item	Unit	Amount used	Price Per Unit	Total Value
	(1)	(2)	(3)	(4)	(5)
1	Grains: Rice			P	P
2	Green Corn				
3					
4					
5					
6	Total Value of Grains Consumed				P
7	Fruits and Vegetables: Okra			P	
8	Squash				
9					
10					
11	Melons				
12					
13					
14	Total Value of Fruits and Vegetables Used				P
15	Livestock and Fish			P	
16					
17					
18					
19					
20					
21	Total Value Livestock and Fish				P
22	Total VFP (Sum of Lines 6, 14, and 21)				P

FSDC Form 5C
 FMPB-5C LABOR SUMMARY

L.	Labor Required for	Total Labor Needed*		
		M.D.s	M.G.	Hours
	(1)	(2)	(3)	(4)
1	Crops: (Form 4-Line 20, Col. 8)			
2	Livestock: (Form 5A-L. 6, Col.6)			
3	Producing Grain for Family Food (Est.)			
4	" Fruits & Veg. " " " "			
5	" Livestock & Fish " " " "			
6	Total Production Labor (Sum of L.1-5)			
7	Miscellaneous Labor (10% x L.6)			
8	Total Labor Needed (L.6 + L.7)			
9	Total Family Labor Available			
10	Hired Labor Needed (L.8 - L.9)			

*If preferred, labor in Man Days (Col. 2) may be converted to either months or hours: 1MD=8 hrs; 25 MDs (200 hrs.)=1 month.

FSDC
FMPB 6

Form 6

SUMMARY: CAPITAL, LABOR, INCOME & SUMMARY

Present System _____
Alternative No. _____

LINE	Item (1)	Details (2)	Totals (3)
Farm Investment Capital: (Data From:)			
1	Breeding Livestock (Form 3, Line 4, Col. 5)	P	/
2	Machinery & Equipment (Form 3, L. 10, Col. 5)		/
3	Buildings & Facilities (Form 3, L. 16, Col. 5)		/
4	Land & Improvements (Form 3, L. 20, Col. 5)		/
5	Total Farm Investment Capital (Form 3, Line 21)	/	P
6	Total Labor Needed (Form 5-C, L. 8, Col. 2 (M.D.))		
Income Over Variable Costs			
7	From Cropping System (Form 7, Line 20, Col. 7)	P	/
8	From Livestock System (Form 5-A, L. 6, Col. 5)		/
9	Total Income Over Variable Costs (L. 7 + L. 8)	/	P
Other (Unallocated) Cash Costs & Net Cash Income:			
10	Hired Labor (Form 5-C, L. 10, _____ MD x P _____ /MD = P		/
11	Cash Rent Paid: _____ ha. x P _____ /ha. =		/
12	Real Estate Taxes (Est. _____ % x L. 5 =)		/
13	Bldg. Insurance & Repairs (Est. _____ % x L. 3 =)		/
14	Miscellaneous Expense (Est. 2% x L. 9 =)		/
15	Total Unallocated Costs (Sum of Lines 10 thru 14)	/	P
16	Net Cash Farm Income (L. 9 - L. 15)	/	P
Depreciation:			
17	Machinery & Equipment (Est. 10% of L. 2)	P	/
18	Buildings & Facilities (Est. 5% of L. 3)		/
19	Total Depreciation (L. 17 + L. 18)	/	P
Returns:			
20	Farm Business Profit (L. 16 - L. 19)	P	/
21	Value of Farm Produced Family Food (VFP) (Form 5-B, L. 22)		/
22	Total Profit (L. 20 + L. 21)	/	
23	Family Lab. (Form 5-C, L. 9) _____ MD x P/MD =	P	/
24	Management Charge (Est. 4% x L. 9) =		/
25	Return to Capital (L. 22, - L. 23 - L. 24)	/	
26	Percent Return to Capital (L. 25 ÷ L. 5 x 100)		
27	Charge for Investment Capital (L. 5 x 12%)	P	/
28	Return to Family Labor & Management (L. 22 - L. 27)	/	P
29	Return to Family Labor (L. 28 - L. 24)		P
30	Return to Family Labor Per M.D. (L. 29 ÷ _____ M.D. (Form 5-C L. 9))	/	P

FORM 7
SUMMARY: DEBT REPAYMENT & AVAILABLE CASH
(optional)

Present Plan _____
Alternative No. _____

FSDC
FMPB 7

	Item (1)	Details (2)	Totals (3)
1	Net cash farm income (Form 6, Line 18)	P	
2	Non-farm income		
3	Total net cash income (Line 1 + Line 2)		
4	Interest paid on I.T. & L.T. debts (see Form 8, Line 6)	P	
5	Est. income tax		
6	Family living expenses (estimate)		
7	Subtotal (sum Lines 4, 5, 6)		
8	Cash available before payments (Line 3 minus Line 7)		
9	Total annual principal payments (Form 8, Line 5)		
10	Net cash available or balance (Line 8 minus Line 9) ¹		

¹May be used for replacement of capital items, new investments, and cash reserve.

FORM 8
ESTIMATING ANNUAL PRINCIPAL & INTEREST PAYMENTS
(optional)

Present Plan _____
Alternative No. _____

FSDC
FMPB 8

	Item ¹ (1)	Average ² principal payment (2)	Average ³ debt (3)	Average interest rate (4)	Average ⁴ interest paid (5)
BEGINNING DEBTS:					
1	Intermediate (1-9 years) P _____	P	P	%	P
2	Long term (10+ years) P _____	P	P	%	P
ADDED DEBTS:					
3	Added intermediate P _____	P	P	%	P
4	Added long term P _____	P	P	%	P
5	Total Principal Payments (sum Lines 1, 2, 3, 4)	P			
6	Total Interest Paid (sum Lines 1, 2, 3, 4)				P

¹Enter beginning debt amounts in Col. 1 blank.

²Estimate the average principal payment on the beginning debts over the next 5 years.

³Estimate of average debt over next 5 years = beginning amount (Col. 1) less 2½ principal payments (Col. 2).

⁴Estimate average interest paid on I.T. and L.T. debts = average debt (Col. 3) times average interest rate (Col. 4).

DIRECTIONS: FORM 7, DEBT REPAYMENT AND AVAILABLE CASH

Use this form (along with supporting Forms 8 and 9) to determine the expected cash flow consequences of each plan being considered:

1. Total net cash income (Line 3) is the estimated cash available before family living, debts, and taxes.
2. Interest paid on I.T. and L.T. debts (Line 4) is calculated on Form 8.
3. Income tax and Social Security expense (Line 5) can be estimated using Form 9.
4. Family living expenses include: food, clothing, household operation, recreation, health, auto expense, life insurance, education, contributions, etc. Cash costs of family living often exceed expectations of those who do not keep complete records through the year. Average expenditures by 21 families who cooperated in the Mail-In Record Program in 1977, as summarized below, may be helpful in planning future expenditures.

All food	\$ 3,360
Clothing	960
Household operation	1,209
Household equipment and furnishings	1,037
House expenses (rent, repairs, etc.)	340
Personal items	1,998
Recreation	322
Education	224
Medicine and drugs	238
Medical insurance	603
Doctor, dentist	845
Church, charity	690
Gifts	234
Home share of auto	580
Life insurance	1,630
Income tax	<u>1,452</u>
Total family living expense	\$15,722

Average number of persons in household was 4.5.

APPENDIX F

A PROPOSAL FOR AN INTENSIVE SHORTCOURSE
IN FARM SYSTEMS PLANNING AND MANAGEMENT

This shortcourse proposal was prepared in February, 1981, by Dr. Albert R. Hagan in consultation with Dr. Don Osburn and staff members of the Farm Systems Development Corporation (FSDC) in the Philippines. It was designed, specifically, for follow-up shortcourses in the Philippines but might be adapted for use in other countries.

The proposal includes information on:

1. The Shortcourse Purpose,
2. Planning Procedures,
3. Comparative Evaluation Measures,
4. Course Chronology and
5. Advance Preparation and Evaluation.

COURSE CONTENT AND OUTLINE

This outline is designed to give a brief overview of an intensive 6-day shortcourse--with attention to the purpose, planning procedures, comparative evaluation measures, course chronology, and advance preparation needed.

Purpose

The purpose of the shortcourse is to teach participants the Farming Systems Approach--a systematic procedure for conceptualizing and evaluating alternative farming systems for individual small-farm families. Each system may include a variety of crop and livestock enterprises--as well as off-farm employment. Each plan is based upon the specific resources, goals, needs, and special problems of the individual farm family.

Overall goals of most farm families are to improve resources and productivity; to increase farm profits and family income; and to achieve better living for the family. More specific goals are unique for each farm family and must be considered in conceptualizing farming systems to evaluate and compare.

At the end of the training period, each participant should have confidence in his ability to evaluate alternative farming systems for any family-type farm unit--regardless of size and/or tenure arrangements.

Planning Procedures

Numerous procedures have been developed for planning and evaluating farming systems for individual farm families--ranging from old-style conventional budgeting to linear programming and other computerized procedures.

The procedure recommended for this shortcourse is called "block" or comparative budgeting. It is a rather simple, quick method of planning and evaluating alternative farming systems for any on-going farm and family unit. All calculations can be performed either with an inexpensive hand calculator or, with a little more time, with pencil and paper only. The procedure is quite teachable.

Three primary ingredients are essential for the block budgeting process: (1) a systematic, logical framework for making analyses; (2) enterprise budgets to provide income-over-variable-cost (gross margin) data for all crop and livestock enterprises to be considered; and (3) a set of worksheets to simplify calculations for each step of the process. These have been developed in Missouri over a period of several decades and have been tested and evaluated on thousands of Missouri farms and with small farms in other countries--such as Barbados, Tunisia, Nepal, India, and

the shortcourse recently completed in Bulacan Province in the Philippines. Several other states in the United States have developed similar procedures.

Since the Farming Systems Approach involves planning for farming and family living for an individual farm family, specific data also must be assembled in advance for that family. For this workshop, a typical farm and family in the area would be selected as a "practice" or "workshop" farm unit in order to add realism and excitement to the planning processes.

Comparative Evaluation Measures

When several alternative systems are designed with an individual farm and family, several criteria are useful for comparing the requirements for each system and the economic consequences.

Some of the comparative measures used in this procedure are as follows:

1. a breakdown of investment capital required;
2. the total labor required for crop and livestock enterprises and for miscellaneous work (both for salable and family-consumption products);
3. the combined gross margins for crop and livestock enterprises;
4. other costs not allocated to enterprises;
5. net cash income;
6. farm profit;
7. returns to capital;
8. percent return to capital;
9. return to family labor and management;
10. return to management;
11. economic rent;
12. total family cash income;

13. family cash needs and obligations; and
14. net cash available for family savings and new investments.

All of these measures were calculated for 18 different systems for a small Filipino farm family during a recent workshop. Striking differences were observed for these measures among the numerous plans evaluated (see Appendix D). Similar measures can be calculated easily for any farming system.

Suggested Course Chronology

	<u>Time</u>	<u>Program Content</u>
First Day		
A.M.	8:00- 9:00	Registration and Introductions
	9:00-10:00	Orientation; the Farming Systems Approach
	10:00-10:15	Break
	10:15-12:00	Review of Farm Management Principles and Concepts
P.M.	1:15- 3:00	Review of Production Economics Principles-- Production Function Relationships; Cost Concepts; etc.
	3:30- 4:45	The Farming Systems Approach--Farm Planning Principles and Procedures
	4:45- 5:00	Participant Evaluation
Second Day		
A.M.	8:00-10:00	Principles Affecting Enterprise Selection 1. Basic Enterprise Relationships 2. Factors Affecting Choice of Enterprises
	10:30-12:00	Discussion of Crops and Cropping Systems Appropriate for the Study Area
P.M.	1:15- 3:00	Discussion of Small-Scale Livestock Enterprises Adaptable to the Area
	3:30- 4:45	Explanation and Discussion of Gross Margin (Income-Over-Variable-Cost) Budgets for Crop and Livestock Enterprises

	<u>Time</u>	<u>Program Content</u>
	4:45- 5:00	Participant Evaluation
Third Day		
A.M.	8:00-10:00	Explanation of Budgeting Procedures--Assignment of Planning Teams for Analysis of Hypothetical Farming System
	10:30-12:00	<ol style="list-style-type: none">1. Discussion and Review of the Farming System2. Analyzed Example of "A Farm Replanned"--(Colored Slide Story)3. Instructions for Farm Visit to "Practice" Farm
P.M.	1:15- 5:15	<ol style="list-style-type: none">1. Visit to "Improved" Farm to Observe Recommended Crop and Livestock Enterprises2. Visit to "Practice" Farm for Observations and Data for Planning Alternative Farming Systems
Fourth Day		
A.M.	8:00-10:00	Team Work Analyzing Long-Run Potential for the "Present" System on the "Practice" Farm
	10:30-12:00	<ol style="list-style-type: none">1. Continuation of Team Planning2. Review of Analytical Procedure for System Evaluation3. Discussion of Key Features of "Present" System Evaluation
P.M.	1:00- 4:45	Team Work in Planning and Evaluating Alternative Systems for the "Practice" Farm (staff time devoted to supervision and assistance to planning teams with analyses)
	4:45- 5:00	Participant Evaluation
Fifth Day		
A.M.	8:00-10:00	Presentation of Plans for Alternative Farming Systems by Members (blackboard or transparency) (tabulation of key production and economic measures calculated for each alternative system)
	10:30-12:00	Discussion of Alternative Systems Evaluated; Advantages and Disadvantages of Each
P.M.	1:15- 3:00	Discussion of Procedures and Management "Tools" for Implementing Long-Run Farm Plans; <ol style="list-style-type: none">1. General Suggestions2. Farm Record Systems

	<u>Time</u>	<u>Program Content</u>
	3:30- 4:45	Implementing Plans (continued) 3. Annual Budgets 4. Partial Budgets
	4:45- 5:00	Participant Evaluation
Sixth Day		
A.M.	8:00-10:00	Other Management "Tools" for Farming Systems Development 5. Cash-Flow Budgets 6. Analyzing Investments
	10:30-12:00	Suggestions for Accelerating Development of Improved Farming Systems by Neighboring Farm Families
P.M.	1:15- 3:00	Review of the Farming Systems Approach; Clarification of Problems in Planning and Evaluating Alternative Farming Systems
	3:00- 4:00	Participant Examination and Evaluation
	4:00	Adjourn

Advance Preparation for Shortcourse

A minimum of one week for on-site preparation for the intensive short-course is essential. Some of the tasks to be completed during this period are as follows:

1. Adjustments in budget forms and procedures to suit local conditions;
2. Preparation of individual gross-margin budgets for each crop and live-stock enterprise adapted to the study area;
3. Reproduction of all reference materials, instructions, and worksheets in sufficient quantity for all participants;
4. Selection of farms for field visits:
 - a. Farm(s) for observing improved systems
 - b. Unimproved typical small farm for use as "Practice" farm for planning activities

5. Preparation, and reproduction, of descriptive data, complete inventories, maps, crop and livestock production for past year, enterprise data, and family living data for "Practice" farm family; and
6. Arrangements for suitable meeting place for both group and team work, along with overhead and slide projectors, screen, blackboards, etc.

In addition to these preparations in advance, a few days for course review, evaluations, and adjustments for future course conduct would be desirable.

APPENDIX G

A FARM RECORDS AND BUSINESS ANALYSIS
RESEARCH PROPOSAL FOR FSDC^{1/}

This proposal was designed to complement and supplement other programs and activities conducted by the Farm Systems Development Corporation (FSDC) in the Philippines.

The proposal includes data on the current situation, justification for the research, and specific objectives. Research methodology would be designed to suit the individual projects developed.

Situation and Justification

The Farm Systems Development Corporation (FSDC) is a unique organizational structure with the mission of improving the quality of life of small low-income farmers in the Philippines who have been by-passed by the mainstream of economic growth. They are handicapped by having a relatively small amount of resources, and because they were by-passed by public investment projects such as those funded by the National Irrigation Administration.

The Farm Systems Development Corporation has attacked the poverty level of their clients from a number of different perspectives, among which is the "farm systems" approach. Agreement regarding the definition of "farm systems" is not found among people in general nor among scholars in the field of development science. FSDC, and rightfully so, considers the "farm systems" approach to improving the welfare of small farmers as dealing with various aspects of the total farm business. Aspirations of the

¹Prepared February, 1981, by Dr. Donald Osburn, Department of Agricultural Economics, University of Missouri, Columbia, Missouri.

farmer and his family are of the most importance. The allocation of his scarce resources among all possible and feasible enterprises (crops and animals) is the concern of the farm systems approach.

Farm business management has received a high priority rating by FSDC. They have developed an optimization model (FSOM) at the Irrigators Service Association (ISA) level to allocate all ISA resources among competing uses to maximize producer income.

As a follow-up, recent efforts have concentrated on techniques applicable to the individual farmer regarding farm business management analysis and decision making. These farm planning activities enable a small farmer to maximize returns to his scarce resources.

Consultants from the University of Missouri, Columbia, (Professors A. Hagan and D. Osburn) provided assistance and advice in this particular area. A necessary condition for farm planning and financial management activities at the individual farmer level is that they must be simple and subject to hand computation. In short, the farm systems approach makes it possible to combine resource uses and product enterprises into a number of system alternatives for the farmer to visualize and weigh the consequences of adoption.

Associated with the total farm business analysis approach has been the development and implementation of an extensive record keeping system by participant farmers. This system is unique from several vantage points. To the author's knowledge, no other country in the world has the detail of farm records for individual low-income farmers as possessed by FSDC. All farmers in the United States have access to a variety of farm record systems that vary in detail. Among the most complex are those afforded by the Land Grant Universities in each state. Very few, however, have de-

tailed consumption data as the FSDC system is undertaking. Noteworthy is the fact that most of the United States farm record keepers are relatively large commercial farmers.

The detail of all business and consumption expenditures offers the opportunity to test a number of research hypotheses that heretofore were not testable because of lack of data.

These data, particularly if tracked over time, are of interest to a number of different planners and policy makers. For example, longitudinal data from farmers participating in FSDC activities would be of interest to economists and demographers concerned with investigating income and fertility relationships. The data is unique in that net family income or earnings is a residual after all family consumption and business expenses have been deducted from gross receipts.

This particular income measure would enable researchers to examine investment decision-making activities of low-income farmers. How increased earnings are allocated among consumption or investment alternatives over time is of high interest in terms of development planning.

In addition to the traditional benefits attributed to a farm records system (identifying cost and returns by enterprises), there are other significant benefits. Longitudinal data would enable determination not only of average earnings associated with specific enterprises, but also of variability in earnings. Knowledge of variability of earnings over time associated with a number of enterprises would permit categorization of enterprises according to degree of risk (both market and production influences). Low risk enterprises (low variability in earnings) with lower potential earnings might be preferred to high earnings and high risk enterprises (high variability in earnings) enterprises. As a policy matter, this in-

formation would be invaluable for a national crops insurance program and related implementation and monitoring activities.

Objectives

1. To determine costs and returns incurred by farmers cooperating in the FSDC program according to:
 - a. Costs and returns by enterprises
 - b. Costs and returns of the total farm business
 - c. Expenditures incurred for family consumption, value of farm produce consumed by the family and direct expenditures for food and other family living items.
2. To determine the degree of variability in total farm and family earnings and the degree of variability in earnings associated with selected enterprises.
3. To determine how discretionary income (earnings after all farm and family living expenses are deducted) is allocated among consumption, savings, and investment.

APPENDIX H

PROPOSED FORMAT FOR INTENSIVE FSDC
STAFF TRAINING IN MISSOURI^{1/}

This proposal was designed to provide intensive training for selected FSDC staff members during a 3-week to a 6-week training period in Missouri.

Three major areas of concentration would be involved in the training process:

1. Farm Systems Planning and Management;
2. Farm Financial Management and Credit; and
3. Cooperative Financing and Management.

Conditions and resources in Missouri seem uniquely suited for conducting intensified training in all three areas of concentration.

The proposal outline includes suggestions relative to the types of training, the source of instructors, and an allocation of time for the training period. One member of the University staff probably could be assigned to full-time work with the group.

Areas of Concentration

Farm Systems Planning and Management, Financial
Management and Credit, and Cooperative
Financing and Management

(Three-Week to Six-Week Training Period)^{2/}

¹ Proposal prepared February, 1981, by Albert R. Hagan, Professor Emeritus of Agricultural Economics, University of Missouri, Columbia, Missouri.

² Condensing this proposed schedule into 3-weeks period is very crowded. If supported by an AID project, a one-week orientation in Washington with officials of USDA and other government agencies might be desirable--such as Farm Credit Administration, the Cooperative Administration, REA (Rural Electrification Administration), etc. This still would allow 4 to 5 weeks for Missouri Training Program, if a total 5- to 6-week period were available (as indicated in 2nd column).

<u>Type of Training</u>	<u>Training By</u>	<u>Time Allocation, (days)</u>
1. ORIENTATION--Conference and Seminars with UMC staff members in Agricultural Economics and related fields	(total 2 days) UMC Staff	(2) to (4)
2. The Farm Systems Approach: The Missouri "Balanced Farming for Better Living" Program	(total 5 days) to 9	
a. Historical Review and Working Procedures and Methods	UMC Agricultural Economics Staff	(1)
b. Visits with Area Specialist Staff Members on Program Organization and Conduct	Area Farm Management Specialists	(2) to (4)
c. Visits with Individual Cooperating Farm Families with Balanced Farming Systems (perhaps stay over night with selected farm families over weekend)	Area Specialist and Farm Families	(2) to (4)
3. Financial Management and Cooperative Farm Credit:	(total 6 to 12 days)	
a. Overall Orientation	UMC Agricultural Economics Staff	(1) to (2)
b. Visit to St. Louis 6th District Banks (Missouri, Illinois, and Arkansas) (Orientation)		
1. Federal Land Bank--Banks		(4)
2. Federal Intermediate Credit Bank--Officers		(4)
3. Bank of Cooperatives --Officers		(4)
c. Visit to PCA (Production Credit Association Cooperatives)		
Eg. 1. Warrensburg PCA --Officer		(1) to (2)
2. Jefferson City PCA--Officer		(1) to (2)
(Including Visits to Cooperative Member Farmers)		

<u>Type of Training</u>	<u>Training By</u>	<u>Time Allocation (days)</u>
d. Visit to Rural Commercial Bank Specializing in Agricultural Credit--Officer Eg. (Mexico State Bank) (Farm Visit to Borrower Farm)	Agricultural Lending	(1) to (2)
e. Visit to Local Land Bank Associations and Cooperating Members		(1) to (2)
4. Cooperative Financing and Cooperative Management:	(total 5 to 8 days)	(1)
a. Orientation	UMC Agricultural Economics Staff	
b. Visit with MFA (Missouri Farmers' Association) Central Staff Head Quarters in Columbia and Subsidiaries	MFA Staff	(1) to (2)
c. Visit to Local MFA Cooperatives to Study Management and Financing Procedures	Cooperative Staff	(1) to (2)
d. Visit to Farm Land Industries in Kansas City or to Farm Services Cooperative in Bloomington, Illinois (Perhaps part of group to each place)	Staff	(2)
5. Review Sessions for Training Period (Seminars and Conferences)	UMC Staff	(1) to (2)
TOTAL TRAINING TIME-----		(18) to (31)
SUNDAYS-----	1 with Farm Family 2 in Columbia	<u>(3) to (6)</u>
TOTAL TIME PERIOD IN UNITED STATES-----		(21) to (36)

NOTE #1: The 3-week period would be very minimal, a 5- to 6-week period would be preferable.

NOTE #2: The number of trainees for this training program would be left to the discretion of FSDC and cooperating administrative staffs. The proposed program could easily accommodate from 5 to 15 trainees--possibly a few more, if necessary.

This proposal is tentative and unofficial. The actual feasibility of such a concentrated training program would need to be explored and negotiated with Administrative Officials of the University of Missouri and USAID.