

第5章 その他

5-1 第1回会合要旨 (英文)

MINUTES OF MEETING: JICA GUIDANCE TEAM AND M.P.I.

DATE: 8th April, 1987
VENUE: M.P.I. Head Quarters
PRESENT:

JICA GUIDANCE MISSION:

Mr. R. MATSUYAMA
Mr. J. WAKISAKA
Mr. M. TSUKIYAMA
Mr. M. SATO

JICA EXPERTS:

Mr. N. IKENAGA
Mr. K. MASUMI
Mr. S. MIURA
Mr. M. HIKICHI

FIJI SIDE:

Mr. N. PATEL
Mr. V. NATH
Mr. N. REDDY
Mr. K. CHAND

Director of Agriculture:

Welcomed JICA Guidance Team, JICA Experts and talked on the subject of Rice Production Improvement. M.P.I. is giving high priority to Rice and self-sufficiency is vigorously pursued. Technical Assistance to achieve this would be appreciated.

Guidance Team Leader:

Gave an address speech and looked forward towards a fruitful Survey trip on the Improvement of Rice.

Director of Agriculture:

With regards to questions asked on handout, verbal answers could be given however, detailed answers could be provided when team meets again after Survey trip.

Brief answers were as follows:

1. Question regarding DP9

- 1) Programme proceeding as planned. However, weather is a major factor in determining production, for example, in 1986, two major floods brought about decrease in production. Actual production data would be provided later.
- 2) Targetted rice areas would be located on map in Central, North and West areas.
- 3) Some areas in the programme need development or improvement. Also some areas require huge development works. In addition potential rice areas can be pointed out.

DP9 could be taken as a broad guideline. In existing rice areas, effort is to intensify production. New areas are looked for future development purposes. Existing areas can be improved to increase production. Expanding into potential areas can also increase production.

2. Question concerning future Agricultural Management

- 1 - 3) Small scale mechanisation is important to ensure timely execution of management practices such as land preparation. Some farmers have their own machineries. Preference also given to small scale contractors for the purpose of land preparation and harvesting.

A.D.A. (D. & I.):

Spoke on Contracting Business.

Under Columbo Plan, one Japanese Expert came some 6 years ago to give assistance in small scale land preparation machineries. As such in Irrigation Schemes, now 90% of land preparation is being done by "KUBOTA" rather than D4s.

There is also a need to shift from large harvestors to small harvestors, such as reapers. The Improvement of Rice Cultivation Technology Project is being requested to provide assistance in this.

M.P.I. would like to extend the concept of small scale contracting work into Rainfed Rice Areas.

- 4) In Wet Zone, where precipitation is high, it is possible to have double crops using minimum irrigation, under rainfed wet land conditions.

In Dry Zone, second crop is completely dependent on irrigation.

- 5) Under the Wet Land conditions, priority is given to mostly transplanting. Under Upland conditions rice is mostly drilled. In the Irrigation Schemes (which comprise 14% of total area), the method of planting is broadcasting pre-germinated seeds. Here M.P.I. would like to have smaller blocks and introduce transplanting. However, simple transplanting machines is necessary, that is, some degree of mechanization with respect to transplanting is necessary.

- 6) Not much fertilizers are being used except in irrigation schemes.
- 7) In Wet Land system, rice is double cropped. In sugar cane areas, rice and sugar cane and in other areas, vegetable and rice with root crops.
3. It is intended to have smaller fields in the range of 0.5ha. Farmers would be encouraged to accomplish this. The Improvement of Rice Cultivation Technology Project would also be requested to assist in this aspect.
4. The availability of land and water supply are considered in regional characteristics. Priority in each project goes to farmers with low levels of income.
6. 1 - 5. The small scale contractors are presently rice farmers. Fiji Development Bank and also Commercial Banks do give credit facilities to small scale contractors.
7. In the sugar cane area, rice is also grown there.
8. The A.D.P. staff with Japanese Extension Expert could point out locations of demonstration farms.
9. On this question, a recent hydrology report is available and would be given.
10. For rice paddy development, ortho maps shall be provided.
11. The current idea is to provide irrigation water and drainage facilities and farmer is encouraged to do basic improvement by himself.
12. There are not so many storage ponds. One in Navua, and two in the Northern Division. These, the Guidance Team will see during their Survey Trip.
13. Cooperation by Australia (ADAB) is in specific location and specific amount. These are mainly in the rice growing areas in the Northern Division. With regards to FAO, cooperation is in the field of Dredging and Drainage Works. UNDP of FAO is assisting in this matter.
14. Yes. M.P.I. is working to improve rice technology at experiment stations in Seaqqa, Legalega and Sigatoka. These stations are in the intermediate Wet Zone/Dry Zone area and emphasis is on finding suitable varieties suited for these intermediate areas.
15. The following being informally requested as cooperation with regards to The Improvement of Rice Cultivation Technology Project.
 - 1) In the RD, Model Structure for experiment station is now implemented. The Pilot Infrastructure has yet to be done. It is proposed to have pilot structures for 2 types of cultivation. Since most production comes from Rainfed Areas (84%) an infrastructure Rainfed wet land pilot is requested. The Northern Division has different climate and different area. Possibility of The Improvement of Rice Technology Project extending their activities to the Northern Division, especially in pilot infrastructure design and implementation.

- 2) With regards to training, M.P.I. is grateful to training received so far. However, consideration should be given to training in places like IRRI to which Japan has firm attachments. Also study trips could be organised to visit JICA projects in countries like Phillipines, Bangladesh, Thailand.
- 3) Consider development and Construction of full irrigation project by way of Grant-Aid.
- 4) At present there is one seed handling plant which can handle one variety at one time. While there are 3 - 4 recommended varieties, it is requested Seed Handling Plant for Dreketi, Northern Division.
- 5) A mechanical workshop for purpose of repair and fabrication of Agricultural Machines.
- 6) The concept of training and Communication unit for the transfer of Research Technologies to Extension Staff and Farmers. This unit could deal with preparation of slides, charts, pamphlets, for Training/Communication purposes. With this regard a Multi-purpose hall could be built at F.C.A., and that this facility to be used for crops other than rice also. A.D.A. (Research) commented present rice training facility be extended to accomodate other commodities.
- 7) Rice Cage at K.R.S. be improved for purpose of carrying out various trials such as cold tolerance trial. In addition, possibility be given to construction of green house at Koronivia for research work.
- 8) Under The Improvement of Rice Cultivation Technology Project, at Koronivia, Research Administration/Training/Laboratories be built for strengthen research activities.
- 9) At present under The Improvement of Rice Cultivation Technology Project, 4 long-term Experts and several short-term Experts are provided for guidance. Consideration be given to additional long-term Experts in the field of:
 - a) Small scale Mechanization
 - b) Weed Control
 - c) Plant Protection
 - d) Water Management
 - e) Post Harvest Technology
- 10) For Dreketi, small agronomy laboratory and attached to it training facilities. This proposed to reduce crowding at Koronivia and save travelling expenses. Mobile unit for transport of training materials could also be looked into.
- 11) Especially at Dreketi, under and part of The Improvement of Rice Cultivation Technology Project, associate Experts/JOVC be based under guidance of long-term Experts to cater for expanding rice activities.
- 12) The Drainage and Irrigation Division is dealing with a lot of design and engineering works. It could be more efficiently done using computers. Request for software, hardware and training for operation of system.

13) Lakena Irrigation Scheme first to be constructed. Knowledge also is being derived on wet land rice cultivation and we are not Experts on rice. According to Short-term Soil Expert, soil type at Lakena is changing to Heavy Gley type. Consideration need to be given to redesign Lakena Project with 0.5 ha field size and with good drainage. This could be as Grant-Aid.

Finally, the Guidance Team Leader asked for priorities of the above request

Director of Agriculture:

At this moment he can not say much because proper channel has to be followed. Also his Minister is away (Elections) and all requests to be reported as informal discussions.

Meeting ended at 12:30pm.

5-2 第2回会合要旨

(2-2の団長レターのとおり)

5-3 調査団報告(公電)

62年4月22日10時55分 フィジー 発 経協技
62年4月22日8時54分 本省 着
外務大臣殿 機貝大使

プロジェクト方式技術協力(いな作研究開発)

第259号 略 至急(ゆう先処理) Q74FDC

16日、本件プロジェクトの一かんとして派遣されたいな作開発協力案件発くつ調査団は、約10日間
にわたる現地調査及び関係者との協議をふまえ、今後必要とされる協力事項等につき、先方農水省農
業局長に対し、調査団としての所見報告を行ったところ、右概要及び同報告に対する当館意見下記の
とおり。

なお、上記報告の詳細は調査団よりちょう取願いたい。

1. 今後必要な協力事項等調査団の所見

(1) 種子対策

種子生産供給体制の一層の整備のため

- (イ) コロニア農業試験場における原種用種子処理施設の改善及び拵じゅうならびに
- (ロ) ヴァヌア・レブ島レケティにおける農家向種子処理施設の設置。

(2) 現地対策

- (イ) モデルほ場の設置——かんがい区及びてん水でん区にそれぞれ設置し、適正技術の実証、ふ
及員の訓練を行う。
- (ロ) パイロットほ場の設置——モデル展示ほ場の成果を見極めた上でパイロットほ場2ヶ所を設
置する。

(3) 農民の直接指導に当るふ及員のレベル・アップ

コロニアにおけるふ及員(キーファーマーを含む)の養成訓練のための施設整備及び現地指
導用機材の整備

(4) 研究基ばんの整備

- (イ) コロニア農業試験場における研究室、研究用グリーン・ハウス・ネット・フィールド、農
業機かい用ワークショップ等の整備じゅう実
- (ロ) ヴァヌア・レブ島(レケティ)におけるいな作研究分室の設置
- (ハ) フィジー農科大学の基礎的教育施設の整備

(5) 長期専門家の増員

上記の対策に対応して長期専門家の増員を図る。例えば、いな作栽培、農業機械（ポストハーベストを含む）、作物保護（雑草、害虫防除）、水管理分野の専門家。（なお、右に関連し先方より、ヴァヌア・レブにおけるいな作開発の重要性にかんがみ、プロジェクトの一かんとし長期専門家とも連携をとりつついな作指導を行うJOCVの派遣について強い要望があった）

当面上記のような具体的協力事項が必要と考えられるが、その中のいくつかは現在実施中のプロ技協のわく内での拡張強化によりぜん次実施が可能と思われる。しかしながら、フィジー農科大学を含む上記の既存の研究用諸施設については、従来からしゅうへん諸国も利用しており、農業発展の中心的役割を果たしている経緯にかんがみ、総合的一体的施設として整備することがぜひ必要と思料される。なお、「フィ」国は、かんがい開発等による米の増産を農業開発の最重点として進めており、いな作の先進国である日本に対して、いな作かんがいプロジェクトの無償資金による援助につき強い要望があった。

2. 当館意見

御高承のとおり、米自給率の向上は、当国第9次5ヶ年計画において最重点プライオリティーが付されており、国をあげてその開発に取り組んでいるところ、本プロジェクトは、右開発の技術的側面において中心的役割をになうものとして、各方面より高い関心と期待を集めている。かかる状況のもと、わが方が更なる協力を行うことは、右目標の達成に極めて効果的、かつ時を得たものとして、わが国の援助に対する評価を一そう高めることとなるものと思料される。

よって、上記1. 調査団の所見をふまえ、(イ) プロ技協のわく内で対応可能な事項については、本件プロジェクトのR/Dの訂正を含め可及的速かに実施に移すこと、(ロ) プロ技協では対応しきれない施設等の整備、即ち、上記1. (3)(4)及び技術協力の成果を具現する上で不可欠なかんがいプロジェクトの実施等については、比較的小額の資金援助（3～4億円程度）にて、多大な効果が得られること、また、しゅうへん島しょ国へのひ益も期待しうることを考慮に入れて、小型の無償援助をフレキシブルに運用することが極めて望ましいと思料される。

なお、新政府のナゾラ農水大臣も本使に対し、本件プロジェクトの重要性を指摘するところがあったので右申し添える。（了）

5-4 フィジー国の稲作開発の現状と計画

1. 稲作開発振興の重要性

フィジー国の経済は、観光（GNPの13%）と砂糖産業（輸出の60~70%）によって支えられているとも言え、また、必需品の多くは輸入している。とりわけ、需要増大が期待される主食の一つである米は、稲作技術の遅れ、多くの稲作適地開発の遅れなどもあって、消費量の50%（2万トン≒6~700万ドル）を輸入している。フィジー国政府はDP-9において、稲作振興は、①米の自給達成（外貨節約550万ドル）のみならず、②雇用機会の創出（2,400人）更に、③簡便・安価な灌漑法の利用促進にもなることから、1990年に米の自給率90%達成を目標に、a) 既存の稲作地域の生産性の向上、b) 新たな稲作地域の開発（5,200ha）、④砂糖きび地帯への自給米の生産の振興を総合的体制の整備を図りつつ、積極的に進めている。

2. 稲作地域の特徴

(1) 降水

フィジー国の稲作開発地域は、本島と北の島である。本島の中部及び北の島は年間降水量が2,600~3,000mmと多いが、本島の西部は1,900mmと少ない。また、各地域（Division）とも6~8月の降水量は少ない。

(2) 稲作地帯の分布及び米の生産

フィジーの米の生産は主として河川流域、デルタ地帯、沿岸の低湿地帯で行われている。作付面積は北の島が50%、本島の中部が35%、西部が15%である。そのうち、天水田に55%、畑に35%、灌漑二期作田に10%が作付され、反収はそれぞれha当り、2.1トン、1.8トン、3トンである。更に米の全生産量の85%は天水田及び畑からであり、現在のDP 9の目標達成時点の1990年（生産目標45,576トン）においても、その70%を天水田及び畑に依存している。

(3) 低生産・生産不安定の要因

(不安定な降水量及び排水不良)

米の生産の大半を占める天水田及び畑における稲作は、降水量に左右され易く生産量は極めて不安定である。また、低湿地帯の天水田は、不良土壌、排水不良、冠水の害を受け易く、このため生産力は低く、生産は不安定である。

(技術的阻害要因)

全体的に反収が低いことの技術的要因としては、①地域に合った改良品種の開発（1986年現在4品種）が緒についたばかりであり、また、その導入はまだ灌漑二期作田（作付面積4,491ha/11,416ha）に限られている。②雑草防除技術が欠けている。③灌漑二期作田の区画面積が1~2haと広く、直播栽培が行われている。また、灌漑二期作田、天水田とも均平が極めて悪い。④水管理技術が全く欠如している。⑤混種が多い。⑥適期適作を行うための農業機械・器具が全くなく、また、その利用知識技術に欠けるなどがある。

(人的資源の不足及び養成施設の未整備)

更に、稲作開発の基本となる研究者の不足、また、普及員及び農民の稲作を含めた農業に対する基礎的知識技術が低く、また、その基礎教育の不足等稲作開発のため人材確保・養成の遅れとともに、これらの基本施設・設備が全く未整備である。

3. 稲作開発の現状

(1) フィジー政府は、米の自給達成は国の最重点課題の一つであることから、稲作開発面積が狭小であっても農民からの要望を受け、また、農民の末端水路の建設及び圃場整備への取組み姿勢を見つつ、極めて現実的経済的方法（自然取水灌漑、明渠排水）で開発を行っている。

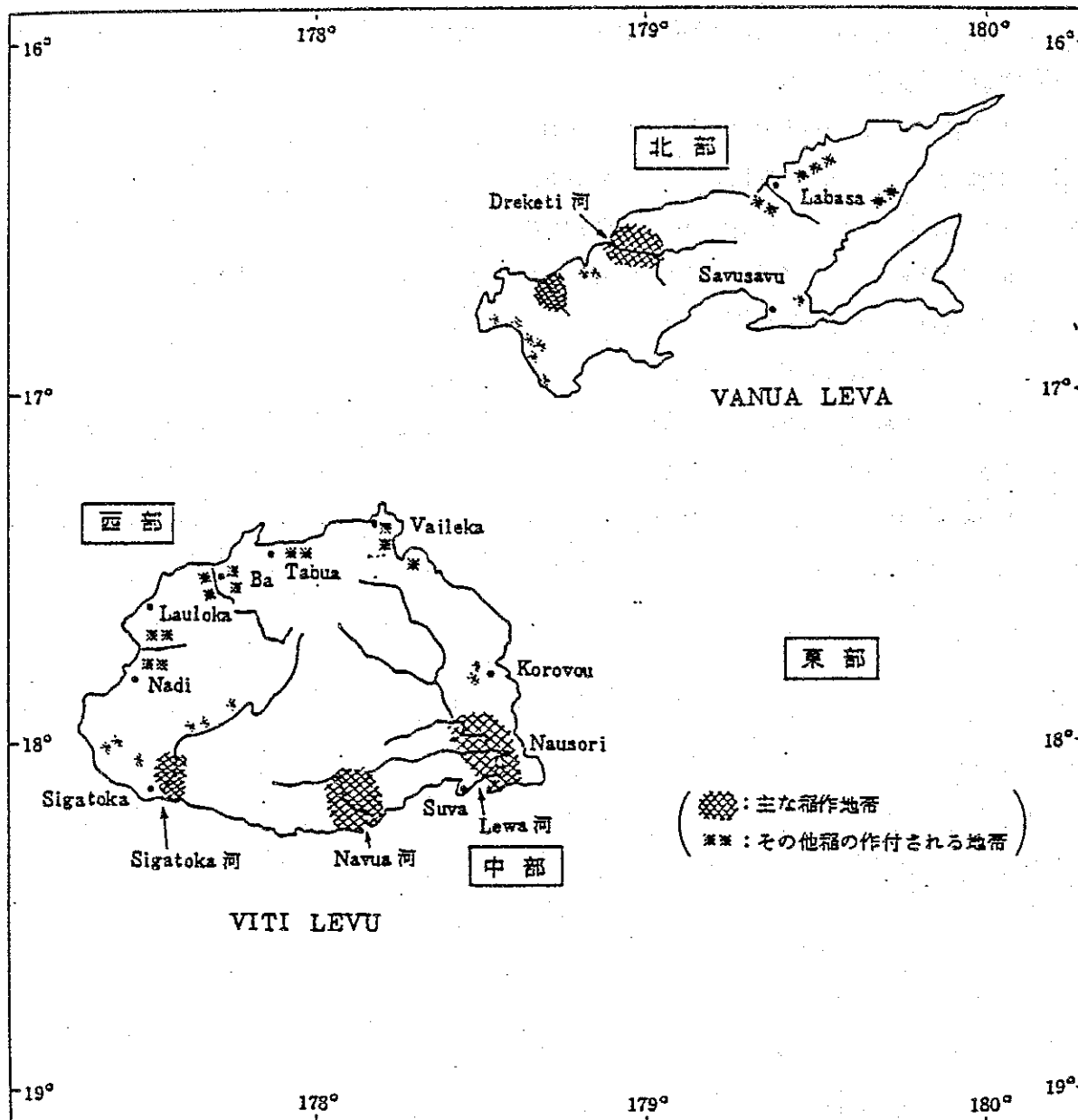
Yarawa地区　：造成費　190千ドル／35ha（幹線水路5km，堰）

Waivunu 地区　：造成費　170千ドル／30ha（幹線水路4km，堰）

Mr. Sac Fu農場：造成費　10千ドル／10ha（幹線水路，堰）

(2) また、大規模な開発においても盛土・突固めによる大型ダムの建設、サイクロンの被害軽減のための河川（Navua, Rewa）の浚渫土砂の利用による防潮堤の建設等極めて経済的な工法を用いて稲作地域の開発を行っている。

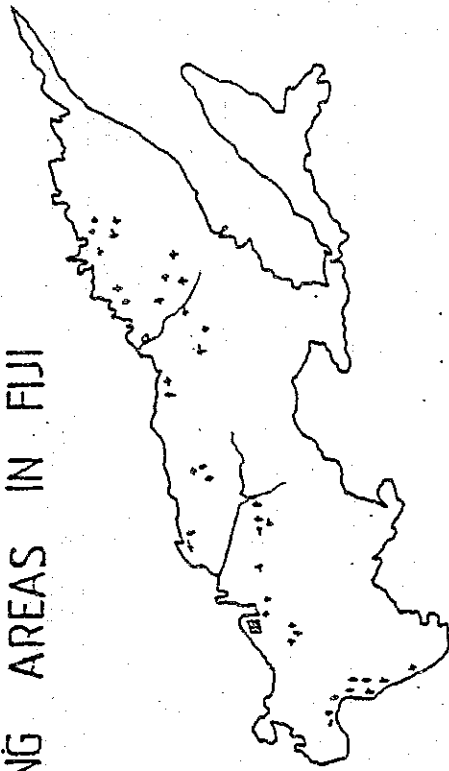
稲作地帯分布



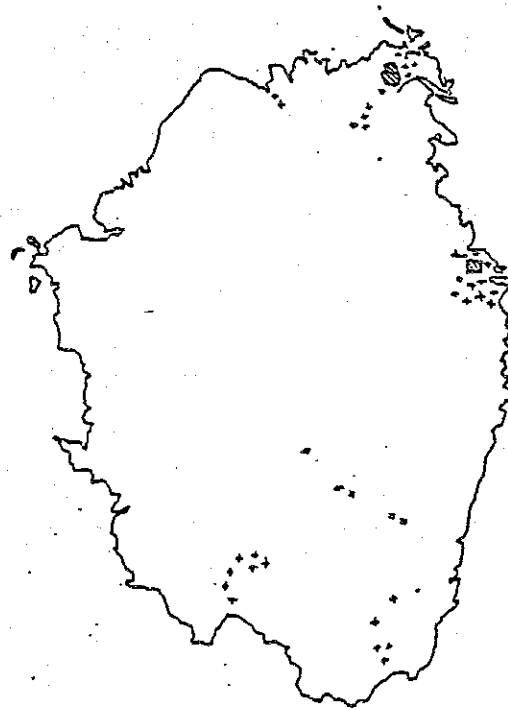
作期による稲作地帯区分

2 期 作 地 帯	1 期 作 地 帯
ヴィチ・レヴ島東部	ヴィチ・レヴ島西部
ヴァヌア・レヴ島西部	ヴァヌア・レヴ島東部

RICE GROWING AREAS IN FIJI





VANUA LEVU



VITI LEVU

REFERENCES

-  IRRIGATED RICE
-  RAIN FED / UPLAND RICE

SCALE - 1:500,000

稲作開発計画地区の概要
SUMMARY OF PROJECT AREA DETAILS (1984)

Location	No. of Households	No. of People	Ethnic Group	Land Tenure	Tenure Problems	Present (1984) Rice Farming Area (ha) ^{a/}	Potential Rice Area (ha) ^{a/}	Estimated Present Paddy Production (t paddy) (生産量)	Main Soil Types By % Area ^{b/}
	(農家戸数)	(住民数)	(人種)	(土地所有形態)		(作付面積)	(開発可能面積)	(生産量)	(主な土壌)
Dreketi I	55	365	Indian	Freehold 2 Landlords	Minor	180	262	630	Molamolu 30% Nareva 19% Soso 40% Dodo 11%
Dreketi II	44	161	Indian	Mainly Freehold, 1 Owner	Potential	200	290	430	Nareva 56% Soso 44%
Dreketi III	40	405	Indian	Indiv. Freehold	No	50	250	90	Nareva 56% Soso 44%
Nasravaqa	80	420	Indians 404 Fijians 16	Freehold, 2 Owners Native Reserve	Yes	190	340	362	Sigatoka 24% Mavevelo 45% Nareva 30%
Droca	6	53	Indian	MLTB Lessee	No	40	80	72	Mavevelo 60% Tabia 40%
Korokade inc. Nadavada	64	392	Indian	MLTB Leases	No	135	200	243	Tabia 64% Nareva 23% Nabiti 3% Mavevelo 10%
Bus Flats	10	47	Fijian	Reserve	Yes)				
	43	231	Indian	Freehold, 1 Owner	Yes) Being) Resolved)	205	250	369	Mavevelo 46% Nareva 34% Tabia 20%
Vunivau	62	413	Indian	Indiv. Freehold & MLTB Leases	No	80	80	189	Nareva 28% Tabia 58% Nareva 14%
TOTAL	404	2,489				1,080	1,752	2,365	

a/ Gross areas suitable for planting rice - do not necessarily correspond with the actual areas of crops planted as shown for example in Table 4.6.
b/ From Table 4.6.
c/ Refer Annex 2 for detailed description.
d/ Includes 150 ha of tiri land.

米の生産計画

Future Programme: DP9 Projection

<u>RICE</u>	1985	1986	1987	1988	1989	1990	Total
<u>Physical Targets</u>							
<u>Production</u>							
(mc) (a)	27400	33600	36200	38400	42500	45600	+18200
Area (ha) (b)							
m/season	10100	11800	12100	12500	12800	13200	+ 3100
off season	1900	2400	2900	3400	3800	4200	+ 2300
<u>Consumption</u>							
[(mc) (c)]	45700	46700	47700	48700	49700	50700	+ 5000
% Self-Sufficiency	60	72	78	79	86	90	
<u>Income \$'000</u>							
Farm Gate (d)	7782	9542	10281	10906	12070	12950	+ 5168
Foreign Exchange Savings (e)	8220	10080	10860	11520	12750	13680	+ 5460
<u>Employment</u>							
Direct (f)	24600	24800	25100	25300	26600	26800	+ 2200
Indirect (g)	700	750	850	850	900	900	+ 200
<u>Investment \$'000</u>							
Capital (h)	3700	4200	3100	1600	1600	1000	11500
Operational (i)	1000	1400	1500	1600	1600	1600	7700
Research (j)	200	260	350	400	450	500	1960

Notes to Rice Table

- a) Refer tables 1 & 2.
- b) Area (ha) - Additional areas to come mainly from ADP and Northern Division Rice Development Programme.
- c) Refer page 30.
- d) At \$284/mc paddy. (\$300/mt. w.e.f. Oct. 1986)
- e) At \$300/mc - Rice Parity Price.
- f) An estimated 12,000 farm families are involved in rice production at the present time. About 70,000 people are fully or partly dependent on rice farming. The total increment over DP9 (2,200) is not new in the sense that the existing farm families will get additional work and hence more income. If rice is seriously taken up by cane farmers then it is likely that more jobs will be created in the cane belt for cane farmers and their families.
- g) Includes job opportunities created during construction period.
- h) Annual funds for capital works. A further sum of \$10.0m-\$12.0m is expected to be invested by farmers (over the period) for on-farm development financed through FDB.
- i) Excludes appropriation for staff.
- j) Excludes Japanese Aid for rice research (approx. \$200,000 p.a.) and personal emoluments.

RAIN F E D R I C E D P 9 - P R O J E C T I O N S
 (天水稲作)
 稲作開発計画

Div.	Dist.	M/S (ha) 1984 (1990Plan)	M/S A.Y (t/ha) 1984 (1990Plan)	O/S (ha) 1984 (1990Plan)	O/S A.Y (t/ha) 1984 (1990Plan)	T/P (t) 1984 (1990Plan)
Central/ADP Total Gonag.		2,415 (4,323) N/A (150)	2.15 (3.10) - (2.50)	723 (1,795) -	1.16 (2.30)	6,108 (17,535) - (375)
Central Total		2,415 (4,475)		723 (1,795)		6,108 (17,910)
Northern - Bua Western Macuata Cakaudrove Macuata Cane Area		(734) 1,702 (222) 115 (200) 2,900 (2,950)	(2.20) 2.20 (2.20) 2.20 (2.20) 2.20 (2.20)	- 120 (-) - -	- 2.78 (-) - -	(1,614) 4,078 (488) 230 (440) 6,380 (6,490)
Northern Total		4,717 (4,106)		120 (-)		10,688 (9,032)
Western - Nadr/Navosa Nadi Lautoka Ba Tavua Ra		314 (480) 75 (450) 44 (160) 122 (380) 81 (130) 700 (580)	1.80 (1.85) 1.80 (1.85) 1.80 (1.85) 1.80 (1.85) 1.80 (1.85) 1.80 (1.85)	- - - - - -	- - - - - -	565 (888) 135 (833) 79 (296) 219 (703) 146 (240) 1,260 (1,073)
Western Total		1,336 (2,180)		-		2,404 (4,033)
NATIONAL TOTAL		8,468 (10,761)		843 (1,795)		19,200 (30,975)

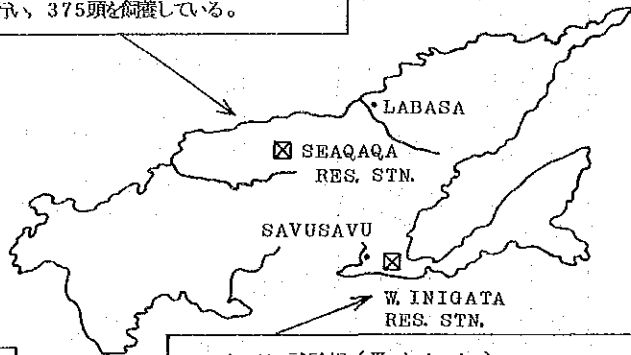
IRRIGATED RICE DP9 - PROJECTIONS
(灌溉稻作)

Div.	(Project)	Dist.	M/S (ha) 1984 (1990Plan)	M/S A.Y (t/ha) 1984 (1990Plan)	O/S (ha) 1984 (1990Plan)	O/S A.Y (t/ha) 1984 (1990Plan)	T/P (t) 1984 (1990Plan)
Central	ADP						
	Naikorokoro		(25)	(3.00)	(25)	(3.50)	(162)
	ADP - Navua East		(650)	(3.00)	(650)	(3.50)	(4,225)
	ADP - Yarawa		(20)	(3.00)	(20)	(3.50)	(130)
Sub Total	Gravity Irrigation		(695)		(695)		(4,517)
Central	Rewa Irrigation						
	Navua Irrigation		310 (310)	2.89 (3.00)	310 (310)	2.94 (3.50)	1,745 (2,015)
	Chinese Project		53 (55)	2.45 (3.00)	55 (55)	2.73 (3.50)	280 (375)
			40 (51)	1.75 (3.00)	37 (51)	3.76 (3.50)	209 (331)
Sub Total	Central		403 (416)		402 (416)		2,234 (2,703)
Northern	Dreketi St.						
	W. Macuata		170 (372)	2.19 (2.50)	120 (372)	3.29 (3.00)	767 (2,046)
	Dreketi III		(141)	(2.50)	(141)	(3.00)	(775)
	Korokade		(200)	(2.50)	(200)	(3.00)	(1,100)
	Naruwai		15 (30)	1.00 (2.50)	15 (30)	2.00 (3.00)	45 (165)
	Droka		(80)	(2.50)	(80)	(3.00)	(440)
	Dama		(22)	(2.50)	(22)	(3.00)	(121)
	Nawailavii		(18)	(2.50)	(18)	(3.00)	(99)
	Vunivau		(100)	(2.50)	(100)	(3.00)	(550)
	Bua Flats		(200)	(2.50)	(200)	(3.00)	(1,100)
	Nasarawaqa		(170)	(2.50)	(170)	(3.00)	(985)
Sub Total	Northern		185 (1,333)		135 (1,333)		(7,381)
NATIONAL TOTAL			588 (2,444)		357 (2,444)		3,046 (14,601)

Total Rice Production (Rainfed and Irrigated) 9,056 (13,205) 1,380 (4,239) 22,246 (45,576)

農業試験場配置図

シーカンガ試験場 (Seaqaqa)
 バヌア・レブ島の州都ランバサ(Labasa)の西方約20kmのところ存在し、ここでは柑きつ、パイナップルの他に山羊の試験を行い、375頭を飼養している。

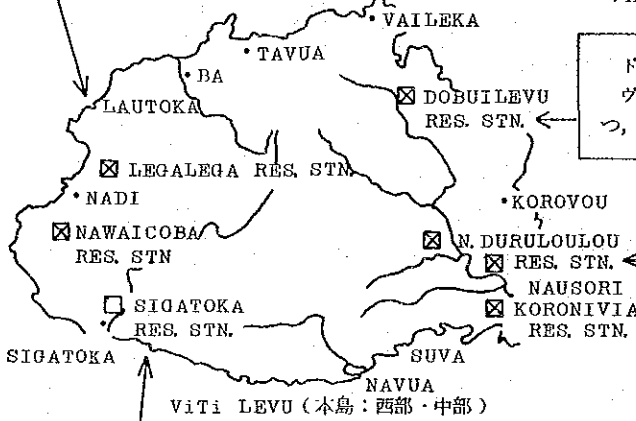


レガレガ試験場 (Legalega)
 ヴィチ・レブ島の西部のナンディの近くに存在し、主に豆類、甘蔗の間作物、陸稲等が試験の対象となっています。

ワイニガタ試験場 (Wainigata)
 バヌア・レブ島の西側サブサブ(Savusavu)の近郊に在り、その地域の特産であるココナツ、ココアの試験の他にタロイもや山羊(229頭)をも扱っている。

VANUA LEVU (北の島=北部)

ドブイレブ試験場
 ヴィチ・レブ島の東北端に位置し、果樹や樹木作物が中心で、柑きつ、バナナ、パイナップル、ココア、ヤム等が作られている。



ナンドルローロ試験場 (Nanduruloulou)
 コロニビアからレワ河を約7km経ったところあり、ココアや茶の試験の他に果樹の育苗増殖を行っている。近くに水産養殖場がある。

シガトカ試験場
 ヴィチ・レブ島の南西端にあって、西部州に立地する。かつては綿花の試験が中心であったが、現在は野菜、果樹、陸稲及び畜産で、家畜は肉牛(ブラマン)を中心に167頭、山羊877頭を飼養している。

VITI LEVU (本島:西部・中部)

各試験場の管理要員の配置 (1984)

	Admini- strator	Farm Manager	Executive officer	Stores officer or Storman	Clerical officer	Typist	Unesta- blished	Total
Koronivia	1	2 1)	1	1	3	5	83	96
Sigatoka	1	1	-	1	1	1	31	36
Legalega	1	1	-	2 2)	1	-	11	16
Dovuilevu	1	1	-	-	-	-	9	11
Noduruloulou 3)	1	1	-	-	-	-	11	13
Seagaga	1	1	-	-	1	-	12	15
Wainigata	1	1	-	-	2	-	10	14
Total	7	8	1	4	8	6	167	201

- 注 1) うち1名はAssistant Farm Managerである。
 2) うち1名はGarage Supervisor (車庫長) である。
 3) この試験場の事務はコロニビア試験場が処理している。

6 試験場の降水条件 (1984)

	1	2	3	4	5	6	7	8	9	10	11	12	Annual
Reinfall													
Koronivia	203.3	258.6	345.4	536.7	523.2	262.5	64.5	153.9	28.0	54.8	240.7	291.5	2963.1
Sigatoka	207.1	363.7	183.4	181.5	103.8	138.6	50.2	61.4	75.2	26.2	104.0	157.6	1652.7
Legalega	312.7	210.5	337.8	247.1	244.8	62.8	0.0	16.9	54.0	32.7	67.1	140.2	1717.6
Dobuilevu	211.8	233.4	522.6	172.7	156.1	242.9	11.6	93.2	22.3	164.3	256.3	195.9	2283.1
Seaqaqa	529.5	229.3	478.5	237.7	251.1	47.1	0.0	36.0	204.5	17.2	257.8	277.6	2576.3
Wainigata	182.7	325.4	263.2	430.0	192.6	138.2	54.8	52.2	143.8	62.3	111.5	223.1	2179.8
Rainy days													
Koronivia	24	21	22	27	26	26	17	15	9	21	21	19	248
Sigatoka	13	1	15	23	15	10	5	9	4	6	8	10	119
Legalega	21	20	12	13	15	6	0	2	3	6	4	10	112
Dobuilevu	17	16	17	11	15	14	5	11	3	8	13	20	150
Seaqaqa	24	19	19	12	10	8	0	8	9	6	14	20	149
Wainigata	20	22	16	16	15	14	11	6	10	10	14	18	172

RICE

Area and Production

An estimated 11,653 ha of rice was planted as compared to 10,442 ha in 1984, an increase of 1,211 ha or 11.6%. Of this total 10,430 ha (89.5%) was grown as rainfed rice and 1,223 ha (10.5%) as irrigated rice.

The estimated total paddy production was 27,574t, an increase of 5,328t or 24.0% over the 1984 figure of 22,246t. The rainfed areas accounted for 87.3% of the total production whilst the irrigation schemes 12.7%.

The details of estimated area, production and yield are shown in Table 9 while the estimated rice cultivation, production, average yield, importation and consumption are presented in Table 10.

TABLE 9
ESTIMATED RICE AREA, PRODUCTION AND YIELD

Division	Area Planted (ha)			Paddy Production (t)			Average Yield (t/ha)		
	Main Season	Off Season	Total	Main Season	Off Season	Total	Main Season	Off Season	Total
Central									
Irrigated	407	416	823	990	1,407	2,397	2.43	3.38	2.91
Rainfed	2,529	859	3,388	6,592	2,121	8,713	2.60	2.45	2.57
Sub-total	2,936	1,275	4,211	7,582	3,528	11,110	2.56	2.77	2.64
Northern									
Irrigated	195	205	400	498	604	1,102	2.55	2.95	2.76
Rainfed	5,156	104	5,260	11,335	261	11,596	2.20	2.50	2.20
Sub-total	5,351	309	5,660	11,833	865	12,698	2.20	2.80	2.24
Western									
Rainfed	1,782	..	1,782	3,766	..	3,766	2.11	..	2.11
Total	10,069	1,584	11,653	23,181	4,393	27,574	2.30	2.77	2.37

TABLE 10
ESTIMATED RICE CULTIVATION, PRODUCTION, YIELD
IMPORTATION AND CONSUMPTION

Year	Estimated Cultivation Area (ha)	Estimated Local Production (t)	Average Yield (t/ha)	Imports Tonnes Equivalent Paddy	Total Estimated Paddy Consumption	Import Value CIF \$M	Imported Value CIF \$/t
1981	8,185	16,972	2.00	21,597	36,569	7.4	345
1982	9,554	20,302	2.12	23,224	43,526	6.4	274
*1983	8,924	16,160	1.81	27,517	43,677	7.5	274
1984	10,442	22,246	2.13	20,695	42,941	6.2	298
1985	11,653	27,574	2.37	21,204	48,778	5.8	271

Conversion Factors: One tonne of paddy equivalent

— 0.78 tonnes of Brown Rice

— 0.68 tonnes of Polished Rice

— 0.68 tonnes of NES Rice

* Crop suffered from severe drought

Rainfed Rice

An estimated 10,430ha of rainfed wet land and dry land rice produced 24,075t of paddy. When compared to 1984, this represents a 12.0% increase in the area planted and 25.4% increase in production.

Planting of the main-season crop was affected due to prolonged dry weather that prevailed until February. Wet weather subsequently in the Central Division during crop maturation and harvesting affected yields.

The rice crop rehabilitation programme, aimed at increasing food production following the cyclones and floodings resulted in satisfactory progress in the Central Division.

Efforts to expand and intensify rainfed rice in the Northern and Western Divisions achieved commendable results. The area, production and yield of rainfed rice is presented in Table 11.

TABLE 11
RAINFED RICE—AREA, PRODUCTION AND YIELD

Division	Area Planted (ha)			Paddy Production (t)			Average Yield (t/ha)		
	Main Season	Off Season	Total	Main Season	Off Season	Total	Main Season	Off Season	Total
Central	2,529	859	3,388	6,592	1,121	8,713	2.60	2.45	2.57
Northern	5,156	104	5,260	11,335	261	11,596	2.20	2.50	2.20
Western	1,782	..	1,782	3,766	..	3,766	2.11	..	2.11
Total	9,467	963	10,430	21,693	2,382	24,075	2.29	2.47	2.30

Irrigated Rice

A total of 1,223ha was planted and at harvest yielded an estimated 3,499t of paddy, an increase of 8.1% in the area planted and 14.9% in production over 1984. The paddy production in the Navua and Dreketi I irrigation projects increased by 34.8% and 15.0% respectively when compared to the 1984 production of 489t and 767t respectively.

In August, the construction of irrigation facilities for Dreketi Stage II, comprising of 200ha of prime rice land, was completed and 50ha planted. Dreketi Stage II irrigation was developed on the basis that government provides irrigation infra-structure and the beneficiaries meet all on-farm development and improvement costs.

The details of area, production and yields are shown in Table 12.

TABLE 12
IRRIGATED RICE—AREA PRODUCTION AND YIELD

Scheme	Area Planted (ha)			Paddy Production (t)			Average Yield (t/ha)		
	Main Season	Off Season	Total	Main Season	Off Season	Total	Main Season	Off Season	Total
Rewa	310	310	620	736	1,002	1,738	2.37	3.23	2.80
Navua	97	106	203	254	405	659	2.62	3.82	3.25
Sub-total	407	416	823	990	1,407	2,397	2.43	3.38	2.91
Dreketi I	177	141	318	458	424	882	2.59	3.00	2.77
Dreketi II	..	50	50	..	150	150	..	3.00	3.00
Naruwai	18	14	32	40	30	70	2.2	2.14	2.19
Sub-total	195	205	400	498	604	1,102	2.55	2.95	2.76
Total	602	621	1,223	1,488	2,011	3,499	2.47	3.24	2.86

Processing

Most of the paddy produced under irrigation and a very small portion of the rainfed paddy were sold to Rewa Rice Ltd. These were received as wet paddy soon after harvest.

The bulk of the rainfed paddy was stored on-farm and milled in small quantities as and when needed by small mills. An estimated 55% of rainfed rice was sold in small quantities in local markets, whilst the remaining was used for home consumption.

Seed Paddy

A total of 302t of rice seed paddy, comprising 283t of Uttam, 7t of Maleka, 10t of Bold grain and 2.5t of K127, was distributed to rice farmers. This represents an increase of 48t or 19.0% over 1984.

National Rice Week

The National Rice Week in January once again marked a significant beginning to 1985. Celebrations were held at 18 centres throughout the country. Each centre programme was organised by farmers and the Ministry staff. The support from the farming community and the business people was tremendous. This resulted in large gatherings with very successful programmes at all centres.

5-5 フィジーの主要指標

1. 自然環境

フィジーは南西太平洋の中央部にあり東経180度線がこの国の東部を縦断している。ビチレブ、バヌアレブの2つのかなり大きな火山島と、両島の周辺に散らばる多数の小火山島や小環礁からなっている。面積は日本の四国とほぼ同じで、そのうち上記2島が90%以上を占めている。両島とも中央部に山岳地帯（ともに最高峰は1,300m内外）を擁し、峡谷や丘陵が多く変化に富んでいる。

この島々は貿易風帯にあり、11月から4月が雨期で、5月から10月が乾期で気温も雨期に比較すると低い。ビチレブ島では首都スバのある東部地域は多雨であるのに対し、西側は比較的降雨が少なく乾燥する。

気 象 条 件

区 分	地 域	1月	2月	3月	4月	5月	6月	7月	8月	9月	10月	11月	12月	年
最高気温 (℃)	中央部	30	30	30	29	28	27	26	27	27	27	28	29	28
	西 部	31	31	31	31	30	29	28	29	30	30	31	31	30
	北 部	31	31	30	30	29	29	28	29	29	30	30	31	30
最低気温 (℃)	中央部	24	24	23	23	22	21	20	20	21	22	22	23	22
	西 部	23	23	23	22	20	19	18	19	20	21	21	22	21
	北 部	23	23	23	22	21	20	19	19	20	21	21	22	21
降 水 量 (mm)	中央部	310	310	380	370	250	170	160	130	200	220	270	290	3,050
	西 部	280	290	360	180	90	70	50	60	80	100	150	180	1,900
	北 部	340	390	400	220	130	60	50	50	80	100	170	270	2,250
降水日数 (day)	中央部	22	21	23	22	18	17	17	16	17	18	18	20	231
	西 部	17	18	19	13	8	6	4	5	7	9	12	14	132
	北 部	17	17	18	12	10	6	6	6	7	8	10	14	131
日照時間 (h/day)	中央部	5.8	5.6	5.2	5.1	4.9	4.5	4.3	5.0	4.4	5.0	5.7	6.1	5.1
	西 部	6.7	6.4	5.8	6.5	6.7	6.9	7.0	7.8	7.1	7.2	7.3	7.0	6.9
	北 部	5.0	5.1	5.3	5.7	6.3	6.3	6.4	7.1	6.3	5.8	5.7	5.5	5.9

注) 中央部はビチレブ島東部のスヴァ、西部はビチレブ島西部のナンディ、北部はバヌアレブ島のランバサの気象である。

2. 経 済

	GDP		人 口 千人	人口1人当 GDP FS	人口1人当 消費支出 FS	失 業 率 %	GDP に占める 財政赤字率 %	貿易収支		
	百万FS	農林水産業 百万FS						輸出 百万FS	輸入 百万FS	
1985	1,242.0	201.9	699	1,777.0	1,216.0	10.2	5.5	▲ 203.0	237.5	440.5
1990	1,585.1	263.9	772	2,053.0	1,408.0	7.2	3.4	▲ 238.5	320.5	559.0

[資料] フィジー政府『DP9』

3. 土地利用

(1) 総括

国土面積 (注 1,2)	全農場面積 (注 3,4)	耕作面積	農場一戸当 面積	農場一戸当 耕作面積
183万ha	32万ha	12.5万ha	4.8 ha	1.9 ha
100 %	17 %	7 %		

(注1) Land area 1,827,000 ha

-Arable land	150,000 ha (8.2%)
-Perm crops	88,000 ha (4.8%)
-Perm pasture	60,000 ha (3.3%)
-Forest & Woodland	1,185,000 ha (64.9%)
-Other land	344,000 ha (18.8%)

(注2) 土地所有形態 1,833,030 100.0%

Native land (固有地)	1,520,775 ha 83.0%
Free hold (私有地)	181,035 ha 9.9%
Crown land (王領地)	126,765 ha 6.9%
Rotuman Communal (ロツマン族地)	4,455 ha 0.2%

(注3) 全農場面積の所有形態

固有地	62.7%	非保留地	36.0%	フィジー人のみ貸与
私有地	26.1%	保留地	26.7%	
王領地	11.2%			

(注4) フィジー人とインド人の土地利用の比較

		フィジー人	インド人
全農場に占める割合		57 %	39 %
一戸当農場面積		2.7 ha	7.2 ha
専従者	家族	1.5 人	1.2 人
	賃労	0.02 人	0.04 人
主要作物		砂糖, キャッサバ等	砂糖, 稲等

(2) 作目別

作目	収穫面積	1985年 生産量	1990年の生産目標
砂糖キビ	71,593 ha	2,975,000 トン	4,900,000 トン
コブラ	—	25,000	
カカオ	(作付) 3,823 (収穫) 1,233	375	(作付) 6,974ha 1,225トン
しょうが	170	3,870	6,340
パッションフルーツ		520	800
オレンジ		(1984年) トン 1,154	5,100

パイナップル	392	4,200	610ha 17,000ト
米		27,400 輸入量 18,300	45,576 輸入量 5,162
メイズ	1,085	2,370	2,205ha 5,570ト

4. 稲作

(1) 稲作農地の開発/改良

1973年：灌漑法及び排水法の制定

1985年：レワ河・ナブア河下流域稲作地域開発開始

(2) 稲作研究組織定員 (実員)

研究	17人	(4.75人)	全研究員	77人
補助		(7.5人)		
雇用員	44人			114人

(3) 農業普及体制

普及部 (根菜類等) : 農業地区 13 (155人)

排水灌漑部 (稲作) : 農業地区 4 (34人)

(4) 米の需給の概要

	稲作面積	生産量	平均反収	輸入量	輸入金額	消費量	自給率	稲作面積		反 収	
								天水田	灌漑田	天水田	灌漑田
	ha	t	t/ha	t	百万f\$	t	%	ha	ha	t/ha	t/ha
1981	8,185	16,972	2.0	21,597	7.4	36,569	46	7,132	1,053	2.0	2.9
1985	11,653	27,574	2.4	21,204	8.8	48,774	57	10,430	1,223	2.3	2.9
1990	17,444	45,576	2.6	5,162	—	50,738	90	12,556	4,888	2.5	3.0

(注) 稲の作期: Main Season (播種/12月~3月, 収穫/4月~7月), Off Season (播種/6月~8月, 収穫/10月~1月の二期作)

[資料] 第一次産業省『年次報告』他

(5) 地域別米生産割合

地域	割合
北部	49 %
中部	38
西部	13
計	100

資料: Fiji Agricultural Commodities Committee [Rice Profile]

(6) 米の圃場形態別割合

形 態		割合	備 考
Irrigation	Irrigation	14	・政府のかんがい計画で開発が行われている。 ・かんがい水田で最も単収高く (3.4t/ha) 2期作。
Rainfed	Rainfed Wetland	54	・最も伝統的な天水田。けい畦はあるが1期作のみ。
	Rainfed Dryland	36	・けい畦なく, 単収も最も低い (2.5t/ha) ・コストも安いがメインシーズンのみが生育可能。

資料：同上

(7) 米の圃場形態別生産費

	ha当たりコスト	kg当たりコスト
Irrigation	475 F\$	14.5 F Cent
Rainfed Wetland	356	17.4
Rainfed Dryland	246	18.8

資料：同上

(8) 作付形態別稲生産費及び収益

	天 水 田 (水稻)	陸 田 (陸稻)	灌 漑 田 (水稻)	平 均
	F\$/ha	F\$/ha	F\$/ha	F\$/ha
種子・肥料代等	2 9 2 (82)	3 3 9 (95)	4 4 4 (124)	3 5 8 (100)
労 働 費	2 4 0 (178)	1 2 5 (93)	4 0 (30)	1 3 5 (100)
総 生 産 費	5 3 2 (108)	4 6 4 (94)	4 8 4 (98)	4 9 3 (100)
粗 収 益	8 8 8 (104)	7 1 0 (83)	9 5 9 (113)	8 5 2 (100)
純 収 益	3 5 6 (99)	2 4 6 (69)	4 7 5 (132)	3 5 9 (100)
(参考) 単 収	t/ha 3. 1 0 (103)	t/ha 2. 5 0 (83)	t/ha 3. 4 0 (113)	t/ha 3. 0 0 (100)

(9) 米の農家販売価格

PRICE PAID FOR PADDY BY RRL

<u>Year*</u>	<u>\$ / tonne**</u>	<u>Real Price*</u>
1973	96.53	96.53
1974	112.67	103.75
1975	152.04	123.81
1976	169.43	123.86
1977	172.54	117.86
1978	176.22	113.47
1979	192.00	114.76
1980	194.89	107.20
1981	207.72	106.74
1982	224.70	107.20
1983	240.00	110.42
1984 \1	264.00	112.94

\1 Current prices for paddy is \$284 per tonne. This was fixed in October, 1984.

* Deflated by the CPI 1973 = 100

** Price as of March 3.

(10) 米の作付面積及び生産量の推移

YIELD & PRODUCTION
(Irrigation & Rainfed)

	Irrigation		Rainfed		Total	
	Area (ha)	Prod. (tonnes)	Area (ha)	Prod. (tonnes)	Area (ha)	Prod. (tonnes)
71					8932	17272
72					8900	17272
73					7920	15697
74	430	1461	8480	15811	8910	17272
75	570	1936	9618	21028	10188	22964
76	650	2148	8491	18436	9141	20584
77	782	2630	8530	15336	9312	17966
78	902	3236	8994	12869	9896	16105
79	1046	3615	8325	15102	9371	18717
80	1116	3192	7892	14654	9008	17846
81	1053	3050	7132	13922	8185	16972
82	1103	2970	8451	17332	9554	20302
83	1360	3830	7564	14775	8924	16160
84	1131	3046	9311	19200	10442	22246
85*	1397	4011	10642	23392	12039	27403

* Estimated

(11) 米の需給の推移

RICE PRODUCTION, IMPORTS AND CONSUMPTION IN PADDY EQUIVALENT ^{\1}

Year	Domestic Prod (tonnes)	Imports (tonnes) Val. in \$ Million	Total Consump ⁿ (tonnes)	Consump ⁿ per capita (Kg/yr)	Self- suffi- ciency %
1971	17272	15303	35575	61	48
1972	17272	15768	33040	61	48
1973	15697	21696	37393	67	42
1974	17272	19878	37150	66	47
1975	22948	17974	40922	71	56
1976	20586	19321	39907	68	52
1977	17966	23983	41949	70	43
1978	16105	23079	39184	61	41
1979	18717	24552	43269	70	44
1980	17846	21303 (6.3)	39149	62	46
1981	16972	21623 (7.4)	38595	61	44
1982	20302	23245 (6.4)	43547	67	46
1983	16160	27517 (7.5)	43677	67	37 \2
1984	22246	20665 (6.2)	42911	66	52

\1 One tonne of paddy is equivalent to 0.78 tonne of brown rice and 0.68 tonnes of white rice.

\2 Due to a combination of drought & hurricane damage.

(12) 米の年次別需給計画 (1984 - 1990)

DEMAND AND SUPPLY FROM EXISTING AND PROJECTED
AREAS AND DOMESTIC
DEFICIT 1984-1990

(TONNES OF PADDY)

	1984	1985	1986	1987	1988	1989	1990
Population \a ('000)	692	706	721	736	751	767	783
Total \b Consumption Actual + Projected	42911	45748	46721	47693	48665	49702	50738
Existing + Projected Production	22246	27403	33552	36193	38396	42530	45576
Domestic \c Deficit	(20665)	(18345)	(13169)	(11500)	(10269)	(7172)	(5162)
Imports as % of Total Consumption	48	40	28	24	21	14	10

\a 1981 population estimate 650100, annual average growth 2.09% (DP8).

\b Average apparent consumption per head 1977/81 (64.8 kg).

\c Total demand less projected supply.

(13) 米の年次別生産計画

RICE	1985	1986	1987	1988	1989	1990	Total
Physical Targets							
Prodt'n.							
(mt) a)	27400	33600	36200	38400	42500	45600	+18200
Area (ha) b)							
m/season	10100	11800	12100	12500	12800	13200	+ 3100
off season	1900	2400	2900	3400	3800	4200	+ 2300
Consumption							
[(mt)]	45700	46700	47700	48700	49700	50700	+ 5000
% Self-							
Sufficiency	60	72	76	79	86	90	
Income \$'000							
Farm Gate c)	7782	9542	10281	10906	12070	12950	+ 5168
Foreign Exchange							
Savings d)	8220	10080	10860	11520	12750	13680	+ 5460
Employment							
Direct e)	24600	24800	25100	25300	26600	26800	+ 2200
Indirect f)	700	750	850	850	900	900	+ 200
Investment \$'000							
Capital g)	3700	4200	3100	1600	1600	1000	11500
Operational h)	1000	1400	1500	1600	1600	1600	7700
Research i)	200	260	350	400	450	500	1960

Notes to Rice Table

- a) Refer tables 1 & 2.
- b) Area (ha) - Additional areas to come mainly from ADP and Northern Division Rice Development Programme.
Refer page 30.
- c) At \$284/mt paddy.
- d) At \$300/mt - Rice Parity Price.
- e) An estimated 11,000 farm families are involved in rice production at the present time. About 70,000 people are fully or partly dependent on rice farming. The total increment over DP9 (2,200) is not new in the sense that the existing farm families will get additional work and hence more income. If rice is seriously taken up by cane farmers then it is likely that more jobs will be created in the cane belt for cane farmers and their families.
- f) Includes job opportunities created during construction period.
- g) Annual funds for capital works. A further sum of \$10.0m - \$12.0m is expected to be invested by farmers (over the period) for on-farm development financed through FDB.
- h) Excludes appropriation for staff.
- i) Excludes Japanese Aid for rice research (approx. \$200,000 p.a.) and personal emoluments.

(14) 農業開発計画における米の年次別作付面積及び生産量

AGRICULTURAL DEVELOPMENT PROJECT (A.D.P.)
RICE TARGETS - AREA AND OUTPUT (BY-SEASON) \1

	1986					
	Off-Season		Main Season		Total	
	HA	MT	HA	MT	HA	MT
A. GRAVITY IRRIGATION						
1. Naikorokoro	8	24	8	24	16	48
2. Navua East	175	525	175	525	350	1050
3. Yarawa	20	60	20	60	40	120
Total Area	203	609	203	609	406	1218
Av. Yields		3		3		3
B. RAINFED	1174	2348	3720	8514	4444	10862
Av. Yields		2		2.6		
C. TOTAL ADP TARGETS	1377	2957	3473	9123	4850	12080
	1987					
	Off-Season		Main Season		Total	
	HA	MT	HA	MT	HA	MT
A. GRAVITY IRRIGATION						
1. Naikorokoro	25	87.5	25	87.5	50	175
2. Navua East	350	1225	350	1225	700	2450
3. Yarawa	20	70	20	70	40	140
Total Area	395	1382.5	395	1382.5	790	2765
Av. Yields		3.5		3.5		3.5
B. RAINFED	1225	2450	3740	9725	4965	12175
Av. Yields		2		2.6		
C. TOTAL ADP TARGETS	1620	3832.5	4135	11107.5	5755	14940

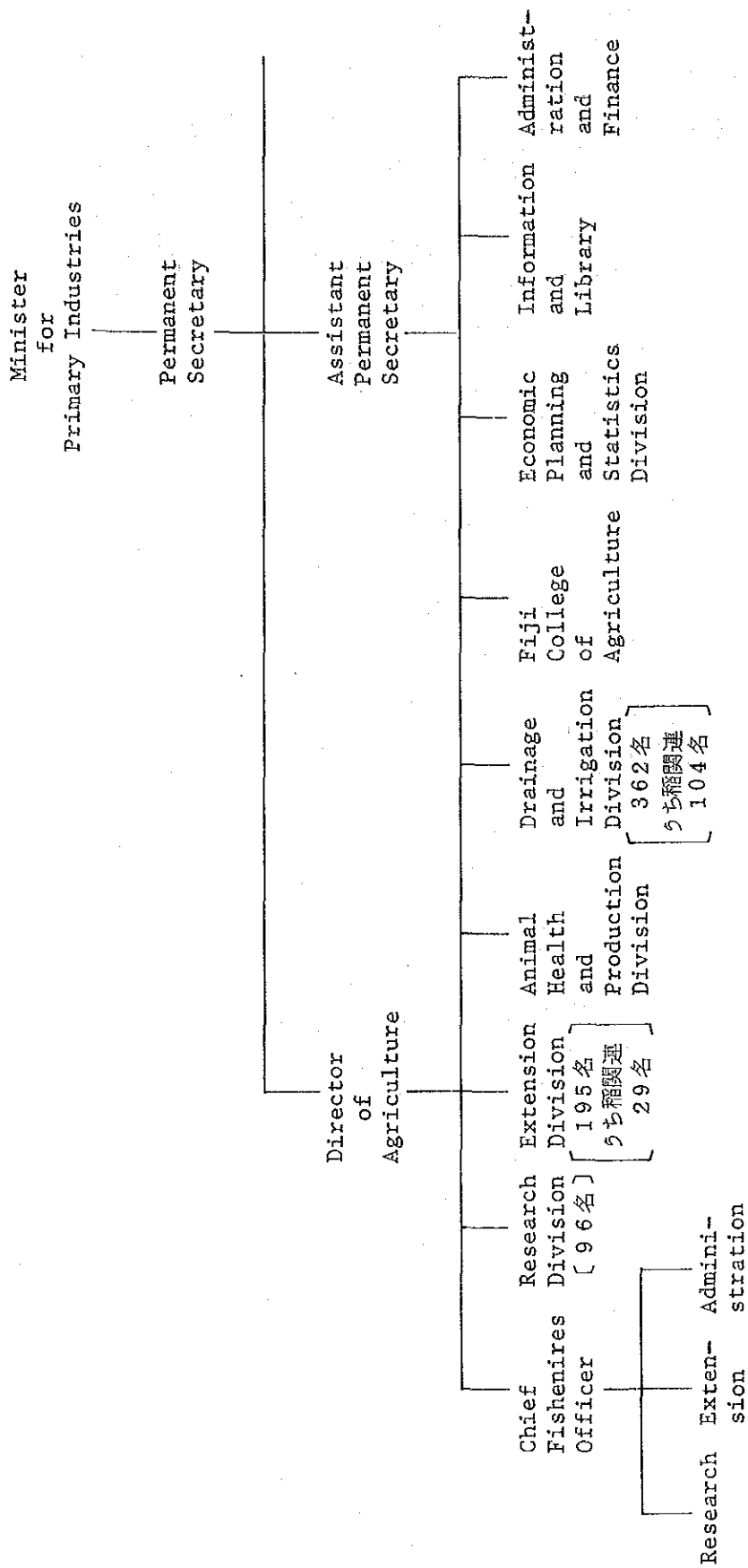
\1 Abstracted from Asian Development Bank Appraisal Report 1985

	1988					
	Off-Season		Main Season		Total	
	HA	MT	HA	MT	HA	MT
A. GRAVITY IRRIGATION						
1. Naikorokoro	25	87.5	25	87.5	50	175
2. Navua East	350	1225	350	1225	700	2450
3. Yarawa	20	70	20	70	40	140
Total Area	395	1382.5	395	1382.5	790	2765
Av. Yields		3.5		3.5		
B. RAINFED	1595	3190	4015	10645	5610	13835
Av. Yields		2		2.65		
C. TOTAL ADP TARGETS	1990	4572.5	4410	12027.5	6400	16600

	1989					
	Off-Season		Main Season		Total	
	HA	MT	HA	MT	HA	MT
A. GRAVITY IRRIGATION						
1. Naikorokoro	25	87.5	25	87.5	50	175
2. Navua East	350	1225	350	1225	700	2450
3. Yarawa	20	70	20	70	40	140
Total Area	395	1382.5	395	1382.5	790	2765
Av. Yields		3.5		3.5		
B. RAINFED	1805	4151	4315	13084	6120	17235
Av. Yields		2.3		3.032		
C. TOTAL ADP TARGET	2200	5533.5	4710	14466.5	6910	20000

	1990					
	Off-Season		Main Season		Total	
	HA	MT	HA	MT	HA	MT
A. GRAVITY IRRIGATION						
1. Naikorokoro	25	87.5	25	87.5	60	175
2. Navua East	650	2275	650	2275	1300	4550
3. Yarawa	20	70	20	70	40	140
Total Area	695	2432.5	695	2432.5	1390	4865
Av. Yields		3.5		3.5		
B. RAINFED	1795	4128	4325	13407	6120	17535
Av. Yields		2.3		3.1		
C. TOTAL ADP TARGETS	2490	6560.5	5020	15839.5	7510	22400

3. 第一次産業省組織図



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