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**FIELD** reclamation on the padi pilot planting project at Sekuduk-Chupak. PHOTOS: ADELINE LIONG/COURTESY OF CERIA AGRICULTURE SERVICES SDN BHD.

# Ritom: Mechanisation the only way forward

BY ADELINE LIONG

**M**ECHANISATION is essential in moving the rice industry in the state forward, says Paul Vincent Ritom, director of the Department of Agriculture Sarawak.

"Sarawak currently produces only about 53 percent of the rice

it consumes. And if we want to increase our level of rice self-sufficiency, the state needs to seriously consider new ways of raising farm productivity in addition to increasing cropping intensity and opening up new areas," he said.

He added that at the start of the 8th Malaysia Plan in year 2001, Sarawak set a target of achieving rice self-sufficiency level (SSL) of 70 percent by year 2010. At that

time, it was calculated that to achieve the 70 percent SSL target, the state would have to open up 23,000 hectares of new land for padi double-cropping. Most of the new areas were to be developed by the private sector, but in the end, that did not happen. By this year, only about 2,000 hectares of new padi estates have been developed, about half of the areas targeted by the Department of Agriculture.

The poor response from the private sector was primarily because of the extremely high costs of developing the padi farm and infrastructure.

According to Ritom, this can cost upwards from RM50,000 per hectare before the land can be used for padi farming. The original plan was for the Federal government to provide the necessary funding but the allocation over the years has been far from adequate.

Under these circumstances, the department now has to focus on increasing farm productivity among smallholder padi farmers. The plan is raise total domestic rice production by increasing yields, labour productivity, and total areas under smallholder cultivation. And one of the most effective ways to increase labour productivity and smallholder output is by promoting farm mechanisation.

"Two farm activities which are very laborious and require mechanisation are planting and harvesting," said Ritom.

"Using traditional methods, it takes on average about 30 days for one person to manually transplant one hectare of padi field, while for manual harvesting, it can take a person at least 45 days to harvest one hectare of padi farm.

"It's a very tedious and slow process. And because you cannot spread the transplanting and harvesting work over too long a period, farmers tend to cultivate smaller areas. So to speed up the work and to reduce the tedium, farmers traditionally prefer to carry out the activities in groups through a form of labour exchange," he explained.

"The department's new emphasis on padi farm mechanisation arises from the need to increase labour productivity. With mechanisation, a padi farmer can complete the same amount of work at a faster rate, thus giving a higher return to labour. In other words, a higher income per day of work. Machines also reduce the tedious nature of farm work."

Ritom told the *New Sarawak Tribune* in an exclusive interview that his department was currently working with the Farmers Organisation and a private company to promote padi farm mechanisation, including services such as field reclamation, transplanting and harvesting.

The first trial mechanisation service was carried out at Sekuduk-Chupak Drainage and Irrigation scheme in Siburan District during

the 2009/2010 harvesting season in March this year. The service was in the form of mechanised padi harvesting, using mini-combine harvesters. The harvesters were purchased by the Agriculture Department and handed over to the Farmers Organisation to manage. The organisation, in turn, leased them to a private company to provide the harvesting service.

The company involved in this case is Ceria Agriculture Services Sdn Bhd. Farmers who use the service are eligible to receive a subsidy worth RM300 per hectare from the department. The service costs RM750 per hectare, so the farmer has to top up the remaining RM450 using their own money.

"According to the feedback from my agricultural officers, the farmers are more than happy to pay the RM450 balance, and they have expressed their interest to use the same service again for the next harvesting season," said Ritom.

He explained that Sekuduk-Chupak was chosen as one of the areas for the farm mechanisation services because it was one of the more easily accessible padi schemes where farmers planted two crops a year as a source of cash income. It is also the largest padi area with irrigation facilities.

"Rice is the farmers' source of income. We want to prove to them that farm mechanisation services can give them better yields and higher profits," he added.

"The Department of Agriculture has been promoting farm mechanisation among padi farmers for a long time. The emphasis, however, is in providing farmers with small machines such as pedestrian power tillers for land reclamation and various forms of padi threshers.

"Farmers are generally happy with those services. However, the farmers have difficulty maintaining the machines and they tend to rely entirely on the department for repairs and maintenance. This situation is not sustainable for the long term and a new mechanism needs to be introduced to reduce the dependence on government to maintain the machines.

"In Semenanjung Malaysia, the farm mechanisation services are provided by the private sector. Likewise in Sarawak, we should be aiming in that direction. To facilitate the involvement of private sector in farm mechanisation, the government needs to provide them with adequate incentives and support in the initial stages. As the

industry grows and matures, those incentives can be reduced or even withdrawn," said Ritom.

He added that in addition to Sekuduk-Chupak, mechanised harvesting services were also provided by Ceria Agriculture Services Sdn Bhd to the rice-growing areas at Tanjung Puring, Lunai in March this year, and at Stumbin-Bijat, Sri Aman in May this year.

Ritom revealed that under the 10th Malaysia Plan, the Agriculture Department proposes to continue with the farm mechanisation subsidy that was introduced under the 9th Malaysia Plan.

"Subsidies are still needed because at the moment, the cost of providing the service is still very high, and padi farmers are not yet ready to pay the full market price for it. Even in Semenanjung Malaysia where the rice industry is much more developed, padi farmers are still given mechanisation subsidy, although at a lower rate."

Ritom added that in Semenanjung Malaysia, padi areas were very large, usually in the tens of thousands of hectares.

"This is the single biggest advantage that Semenanjung Malaysia has when it comes to providing mechanisation services by the private sector. When the padi areas are huge, big machines such as harvesters and farm tractors do not have to be frequently moved from place to place.

"Mobilisation costs are greatly reduced, so the cost of providing the service is lower. The commercial rice industry in Semenanjung Malaysia is also big and mature enough to support good machinery after-sales and back-up services.

"With all those advantages, the private sector there is able to provide mechanisation services as a viable business. Mechanisation services for padi farmers can, therefore, be provided at competitive prices and farmers are usually able to pay market prices for the service. Any subsidy provided by government is merely to increase the income of farmers rather than as support for the farm mechanisation industry.

"In most of the large granary areas in Semenanjung Malaysia, farm lots are also properly laid out. That facilitates field operations of machines, thus increasing their efficiency and productivity.



PAUL Vincent Ritom



A TRAILER is used to move farm machines from Kuching to Sri Aman.



MOVING a combine harvester from one padi field to another in Sarawak is hard work.

>> From T1

"Those conditions do not yet exist in Sarawak. Here, the padi areas are generally relatively small, seldom exceeding 300 hectares in size. These padi areas are also scattered throughout the state and most are separated by long distances, often in the hundreds of kilometres.

"Moving mechanisation operations from one location to another adds to the cost of providing the service. Farm machinery such as harvesters and farm rotovators are specialised equipment. They are very few in number at the moment, and local dealers do not carry spare parts nor ready to provide efficient after-sales service. And when machines break down, not only are the spare parts expensive, but they also need to be imported each time they are needed. This causes delays and lengthy down-times which add to the cost of operations."

Ritom added that presently, experienced machine operators were also very scarce in Sarawak.

"Farm lots in most padi areas are also of varied and irregular sizes and shapes. Again, this hampers field operations, resulting in lower operating efficiency of machines, which translates into higher costs. What this means is that our costs of providing farm mechanisation services in the state are very high compared to that in the West.

"And if we are to facilitate the growth of the farm mechanisation services industry in Sarawak, we cannot apply the same rules as in Semenanjung Malaysia as they stand at the moment. We need to ensure

that providing farm mechanisation services is a viable business proposition for the private sector. It is important therefore for government to provide the necessary support for private sector to get involved in providing the service, at least in the early stages and until such a time when our padi farmers are able to pay market price for the services," he stressed.

"Providing efficient farm mechanisation services by the private sector, however, is only one side of the coin. Such a service is only sustainable if padi farming itself is a profitable activity. This means that our rice industry must also develop in terms of increasing yields and farm productivity, to the level that will allow padi farming to generate sufficient income for farmers, and to attract private investors to go into commercial rice cultivation," he added.

Ritom revealed that the Sarawak government has revised its policy on rice self-sufficiency. Although the state was not able to achieve its earlier target of 70 per cent SSL by year 2010, nonetheless, it still aims to achieve a SSL of 85 per cent by year 2020. This is a huge challenge for the State Ministry and Department of Agriculture.

Central to the goal of increasing domestic rice production is the matter of raising farm productivity and increasing the area under commercial rice production.

"Again, it is with a lot of conditions. The basic farm infrastructure must be in place to ensure effective and efficient field water management. For this, the government must cover the costs of providing the primary and secondary infrastructure, as

well as irrigation and drainage facilities. It must also contribute to the costs of levelling the individual rice plots.

"Small, individually farmed padi plots must be consolidated into rice estates so that there will be economy of scale under centralised management. Currently, it is difficult to design the infrastructure to accommodate the individual padi plots of different shapes and sizes. Smallholder padi farms presently are all family operated and dependent on family labour," he said.

Ritom is, however, very optimistic that with the proper production package and good farm infrastructure, present farm yields can increase by between half a ton to one ton per hectare per season for the traditional varieties. With new, improved high-yielding varieties, the increase in yield can be much higher. Much more, however, needs to be done to convince farmers to adopt the complete production package that can lead to higher yields.

Towards that end, trial planting of padi with all the proper production package and infrastructure is currently being carried out at Sekuduk-Chupak to study the effects on yield with the adoption of the "whole package."

"The pilot planting project covers 15 hectares. Ceria Agriculture Services Sdn Bhd has offered to promote the full production package to selected farmers in the Sekuduk-Chupak padi area, focusing on the MR219 rice variety," explained Ritom.

Under the pilot planting project, the Agriculture Department provides funding for land levelling and rotovation, provides quality seeds and other technical support to the farmers. The company will manage farm operations by the farmers, including providing the complete farm mechanisation services. The company will also assist in padi marketing and milling.

In addition to managing the farm operations, the company has also agreed to collect crop production data and to share the information with the Agriculture Department. At the end of the project and with the cooperation of the company, the department will have access to valuable data which it will use to evaluate the economic viability of adopting the complete production package in commercial rice production.

"Everything will be reduced to dollars and cents. We are looking into the economic costs to find out how viable a smallholder's rice farming will be using the whole package.

"The trial planting also aims to demonstrate the effectiveness of good seeds, water control, fertiliser usage, land levelling and rotovation, mechanised trans-

planting, pest and disease control, mechanised harvesting and mechanised drying.

"It will be used to compare what the farmers get before and after the complete package. If the yield is good, we can use it as an example to convince the policy makers and people who control the money to give us more money for rice farming in the state," he said.

On other related matters, Ritom also revealed that for the past two years, padi farmers in the state had been receiving various forms of assistance and production incentives under the "Paddy Quick Win Scheme".

The "Paddy Quick Win Scheme" is a programme introduced by the federal government in 2008 when there was a shortage of rice in the world market, forcing the government to pay more than double the normal price for rice imports. The events of 2008 made the government realise that domestic rice production must be increased to shield the country from future shortages of our staple food.

"Under the scheme, padi farmers are given additional fertilisers and pesticides free of charge. Where necessary in order to increase yields, funds are also provided to help farmers carry out land levelling in their paddy fields. With land levelling, irrigation water can be distributed more evenly in the padi plots, resulting in optimal crop growth, better weed control, and thus increased yields. In areas where drainage and irrigation facilities need to be repaired or maintained, funds are also given to Department of Irrigation and Drainage (DID) to carry out the works."

Under the scheme, there are also provisions for the Department of Agriculture to buy agricultural machinery for padi like tractors, power tillers (ploughing machines), different types of threshers and mini combine harvesters. The small and portable machines are given to the Area Farmers' Organisations (AFOs) to manage, while the larger machines are handed over to the State Farmers Organisation (SFO) to manage and operate as a business operation.

For the larger machines, the department is encouraging the SFO to work with a private sector partner with the necessary experience and business networks to operate the mechanisation service as a business activity.

Some of the bigger machines have already arrived in 2009, while more will be coming this year. Early this year, the Department of Agriculture worked with Ceria Agriculture Services Sdn Bhd to use the machines in Sekuduk-Chupak padi area. The purpose was to introduce the big machines to farmers in the area

to gauge their response to paying for the service. It was also an opportunity for the department to gather technical data on the performance of the machines under local conditions, as well as to collect information on operating costs. The data and information collected will be extremely useful for the department to determine the economic viability of using such machines from the stand point of local farmers and those of the rice industry.

Although the focus of federal government assistance under the Quick Win Scheme is towards wet padi farmers, hill padi farmers have not been left out. For the past two years, each hill padi farmer registered with the department is entitled to receive two 25-kg bags of Ammophos fertiliser a year.

"All these aids under the Quick Win Scheme are intended to increase farm yields and thus, rice production. In the case of Sarawak, preliminary observations by Agriculture Department showed that farm yield had indeed increased under the scheme. However, the 'Paddy Quick Win Scheme' was originally planned to go for three years starting 2008. This year is the final year, and at the moment, the department has not been informed of any extension," said Ritom.

In addition to the extra assistance given to padi farmers under the 'Paddy Quick Win Scheme', the federal government has also been giving free fertilisers to wet padi farmers under 'Skim Baja Padi Kerajaan Persekutuan (SBPKP)'. Under this scheme, each farmer is given 12 x 20-kg bags of compound fertiliser and 5 x 20-kg bags of urea fertiliser per hectare. While this scheme has been implemented in West Malaysia for decades, it was only extended to Sarawak in 2002. Farmers need to be registered with Agriculture Department before they can receive the fertiliser.

Farmers who sell their padi can also get price subsidy from the government. For every ton of padi sold, farmers can receive RM248 in cash which is banked into their account. This subsidy from the federal government is paid through Padiberas Nasional Berhad (BERNAS) and is only given if the padi is sold to BERNAS-registered rice mills.

On another related subject, Ritom said that most padi farmers planted their own traditional varieties. There are many such varieties of different grain sizes and colours throughout the state. Some of the traditional varieties have excellent eating and nutritional qualities and are regarded as speciality rice which can be promoted for niche markets.

In this regard, the department has already identified a few traditional varieties which can be commercially produced for niche markets. They include Beras Bario, Beras Bajong, and Beras Biris. The department has registered these three varieties under the Geographical Indication (GI) category with the Malaysian Intellectual Property Organisation (MyIPO). This means that nobody outside of Sarawak is allowed to use those names in their rice promotion, branding and marketing activities.

"Although we have many traditional varieties that have commercial potential, from the business point of view, the local rice industry should focus on just one or two varieties of rice. They should allow the consumers to become familiar with the promoted rice variety. If the industry keeps on changing the varieties, they will confuse the consumers and eventually lose their business," Ritom pointed out.

He revealed that the Department of Agriculture was trying to identify more "champions" among the local rice varieties.

"Like the famous Bario rice, Bajong rice and Biris rice, they must be of good quality and liked by consumers," he explained. At the moment, the only variety recommended for large scale commercial production in Sarawak is MR219. This is a variety that was developed by the Malaysian Agricultural Research and Development Institute (MARDI). The variety has proven to perform well under Sarawak conditions and has been planted in private rice estates as well as by smallholders in Sekuduk-Chupak.



PADI farmers in Sekuduk-Chupak attend a gathering cum dialogue session organised by Ceria Agriculture Services Sdn Bhd and the Agriculture Department of Sarawak.



AN MR219 nursery in Bau.