

## Cluster level information for POWB - 2018

### CA4.2 – Raising incomes and improving the health and safety at small and medium cassava processing centers, preferentially for women and youth in rural and urban areas

#### OUTPUTS TO BE HIGHLIGHTED (1 OR 2)

Output code - Title	Descripti on in MEL is clear & complete	End date is 2018	Major risks that may hinder the delivery of results <sup>1</sup>	Main source of funding	Means of verification
CA4.2.1.4. Multi-objective optimization framework applied to optimize drying in at least two countries, integrating technical, socio-economic and environmental criteria to identify most suitable design	Yes	No. This output is highlighted in 2018 because we expect rapid progress towards scaling out flash drying technology, and increased collaborations with private cassava processors	Part of the activities rely on partners implementing technical modifications or investing in drying technology. Delays in these investments may hinder delivery.	W1/2 Earmarked	Number of capacity building events held (target: 3); number of cassava processors testing or using flash drying technology (target: 6 in 3 different countries)
CA4.2.2.1. Participatory approach with processors and consumers in the adoption of an improved variety or technological process developed and tested in at least two countries for a combination of two varieties and two processes	Yes	No. This output is planned until 2019, with further possible extension. Nevertheless we expect significant advances this year with the conclusion of several trials in 4 countries	The trials on processing ability need to be synchronized with the harvests, to avoid the risk of missing a harvest. Good coordination will be key between partners (CIRAD, IITA, CIAT) to achieve this.	W1/2 Earmarked	Number of reports produced (target: 4, i.e. one per country). The expected result is a clearer understanding of what criteria processors use to adopt new varieties, and hence need to be included in priority in the varietal screening process

<sup>1</sup> Focus on technical or geographic considerations.



## OUTCOMES TO BE HIGHLIGHTED (1 OR 2)

### **Outcome: Processors improve cassava processing efficiency**

The tests of the pilot flash dryer conducted at CIAT in 2017 have attracted interest of cassava processors in Colombia (3), Nigeria (2), Benin (1), Ghana (2) and Uganda (1). Partners for scaling-out the energy-efficient small-scale flash drying technology have been identified. In Ghana and Colombia, two potential partners are considering investments to design, then build, two new flash dryers with production capacities adapted to their needs (10 and 5 tons of starch or flour per day, respectively). These rapid developments confirm the demand for energy-efficient drying technology for starch & flour. **The outcome expected in 2018 is 10 equipment manufacturers and cassava processors trained in energy-efficient flash drying and able to apply and use the technology to conduct extensive testing in operational environment (scaling-out readiness stage 6).**

*While the number of cassava processors partners may appear still limited, the expected effect is already significant because each cassava processor improving their efficiency has direct linkages with 250 to 300 farming households who supply cassava roots. This number is based on one average household growing 1 ha of cassava and supplying 15 t roots/year (yields 10-20 t/ha; crop cycle 10-12 months); and a processing capacity of 5000 t roots/year (20 t/day x 250 days of operation). As out-scaling activities gain momentum, the number of beneficiaries is expected to increase rapidly.*

## MAIN CHANGES IN THE LOGIC OF THE CLUSTER AND AREAS OF WORK THAT WILL BE DISCONTINUED

There are no main changes in the logic of the cluster. All areas of work remain relevant and will continue. Nevertheless, activities are suspended this year for some outputs<sup>2</sup>, due to availability of funding, as well as human resources among the research team.

Questions are arising about the feasibility of the output CA4.2.1.5 Database of technologies and equipment for cassava processing: While establishing such a database is possible (web-based open access database), the cost of maintaining it up-to-date may not be justifiable in the current funding environment, compared to the potential benefits of the investment. Decision on the continuation of this output will be taken by 2019.

## NEW KEY EXTERNAL PARTNERSHIPS

Partner	Brief description of collaboration and value added*
CSIR – FRI, Ghana	The Food Research Institute (Ghana) is prepared to contribute to the construction and testing of an energy-efficient small-scale flash dryer for cassava flour and starch production. The FRI can bring on-board skilled equipment manufacturers, able to build dryers of good construction quality with minimal capacity building. If confirmed, this partnership can boost progress towards scaling-out of flash drying technology.

\*e.g. scientific or efficiency benefits in achieving expected results

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<sup>2</sup> The following outputs do not have deliverables planned for 2018: CA4.2.1.2, CA4.2.1.5, CA4.2.2.2, CA4.2.2.4, CA4.2.2.5, CA4.2.3.4, CA4.2.4.2, CA4.2.4.3.

## NEW INTERNAL (CGIAR) COLLABORATIONS AMONG PROGRAMS AND BETWEEN THE PROGRAM AND PLATFORMS

Name of CRP or Platform	Brief description of collaboration (give and take among CRPs) and value added*
PIM	<p>We propose to combine PIM foresight and ex ante approaches with RTB experience of cassava value chains (technological, economic, social aspects) to develop accurate models to (1) evaluate the possible effects (positives and negatives) of research investments on cassava value chains; and (2) identify the best “value-for-money” research investments towards improvements of cassava production and processing, including the gender and youth dimension.</p> <p>The following case studies will be considered for this PIM-RTB collaboration:</p> <ol style="list-style-type: none"> <li>1. Mechanized gari production: <ul style="list-style-type: none"> <li>- Can we evaluate/predict the effect on employment (women in particular) and incomes, as mechanization replaces jobs?</li> <li>- Can mechanization help to increase production capacity, to meet the growing demand for gari due to growing populations in West Africa?</li> <li>- A related value chain is the farinha in Brazil (Parana), which is fully mechanized since several years; hence it could be used as a case study of what happens during and after mechanization.</li> </ul> </li> <li>2. Cost/benefit ratio of research investment for the prevention of pest and diseases of cassava, compared to business as usual? <ul style="list-style-type: none"> <li>- Pests and diseases of cassava are currently spreading in South-East Asia. Is it worth investing to monitor and develop strategies to mitigate their effects?</li> </ul> </li> <li>3. Energy-efficient small-scale flash dryer: Can we evaluate under which conditions the technology will be adopted, and when adopted, what will be the effect of this technology on cassava processing?</li> <li>4. Mechanization of small scale cassava processing in Philippines, Myanmar, Indonesia: Impacts at national level of the increased production and/or product quality? Impacts at international level (e.g. exports to Thailand and Vietnam, for further re-export)?</li> </ol>

\*e.g. scientific or efficiency benefits