

Concept note

Nigeria Seed Platform

Note: This is a tentative concept note. In the course of the development process, there will be minor changes in the application's functionalities based on convenience, current government regulations, and feasibility

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1. Existing System

The existing system for plant variety protection and release of new crop varieties release are handled by two organizations in Nigeria. The protection of plant varieties is handled by the National Agricultural Seeds Council (NASC) under the Federal Ministry of Agriculture and Rural Development (FMARD), while the National Centre for Genetic Resources and Biotechnology (NACGRAB) handles Variety Release. At the outset, we would like to state that there is already a document repository and information dissemination platform already available with the plant variety protection office with the URL <https://pvp.ng>

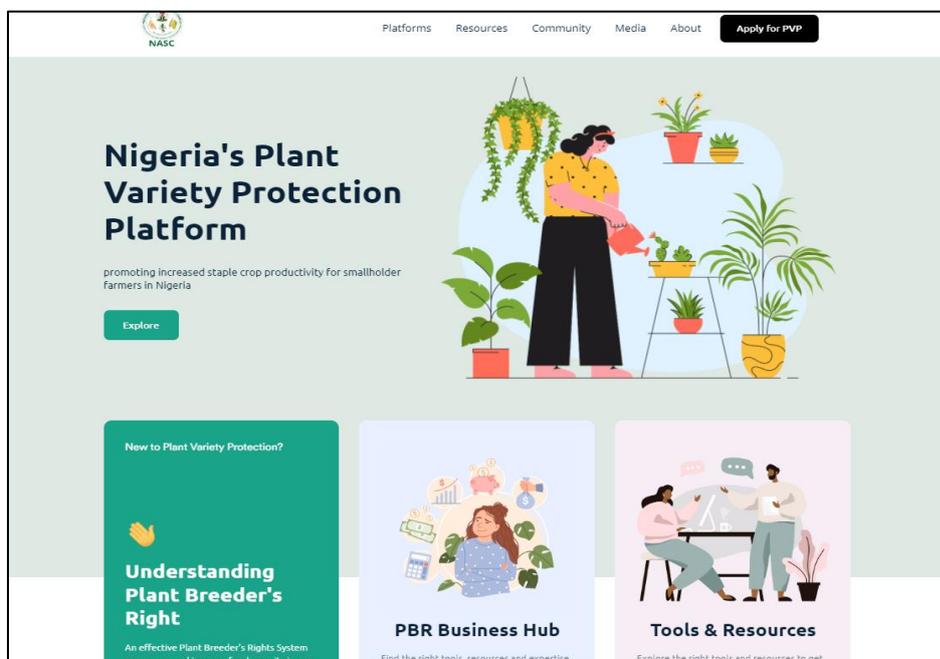


Fig1: A screenshot of the pvp.ng platform

This platform is well designed as a front office, and it will be easier to build on this existing platform, a back-end system where all the decision making, application receipts, payment receipts, and finally, certificate granting can be embedded. However, the Crop Variety Release Portal needs to be designed afresh with the front-end¹ and back-end² systems added. The primary planning of this concept note is to have a Nigerian seed portal platform or a kind of website from where the two activities' (Variety Release and Plant Variety Protection) portals can be accessed.

2. Crop Variety Release

Currently, the variety registration applications are received by the NACGRAB along with the report of multilocation yield trials (VCU), DUS/on-station trials, and on-farm trials. Upon scrutiny and presentation by the breeder of the new entry, the Technical Sub-Committee agrees to recommend the candidate variety for release (or may reject them) and forwards it to the National Committee for approval. After this, the variety and details are entered in the National Registry/Catalogue. The below flow chart shows the exact procedure.

¹ Front-end is the web platform that can be accessed by everyone who are seeking services

² The Back-end is the secure side of the platform where administrators will work on the various decision making and logical operations

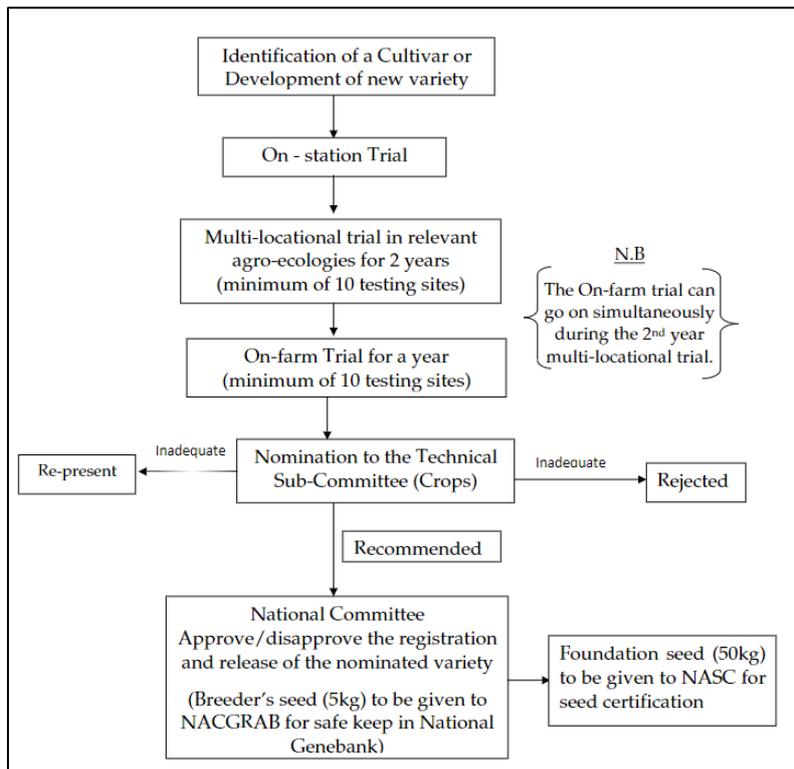


Fig 2: Diagrammatic representation of the procedure for registration of Crop Variety In Nigeria

3. Plant Variety Protection

Nigeria follows the UPOV (The International Union for the Protection of New Varieties of Plants) guidelines for plant variety protection. Based on that, every variety that needs protection and to be conferred plant breeders' rights has to go through a mandatory DUS testing or Distinctness, Uniformity, and Stability testing. This activity is handled and controlled by the NASC or the National Agricultural Seeds Council of Nigeria. The procedure is again somewhat similar to the variety release as the entry varieties from the Breeders have to be compared with similar crop varieties and tested for two seasons under different agro-climatic conditions to test their novelty uniformity, distinctness, and stability. However, during the release of a variety, the DUS testing is also done. So a variety to be granted protection under the plant breeder's right must have one or more essential characteristics different from already existing varieties. This is known as the **distinctness**. The other traits are **uniformity**, or the expression of these characteristics has to be uniform over the population and stable across seasons to have the **stability** trait. After scrutinizing these results, the NASC finally grants the certificate to the plant breeder, which confers exclusive production and licensing rights of this plant variety for 20 years (field crops and vegetables) and 25 years for trees and vines.

The procedures for the plant variety protection under the Nigerian system is explained in the flow chart below

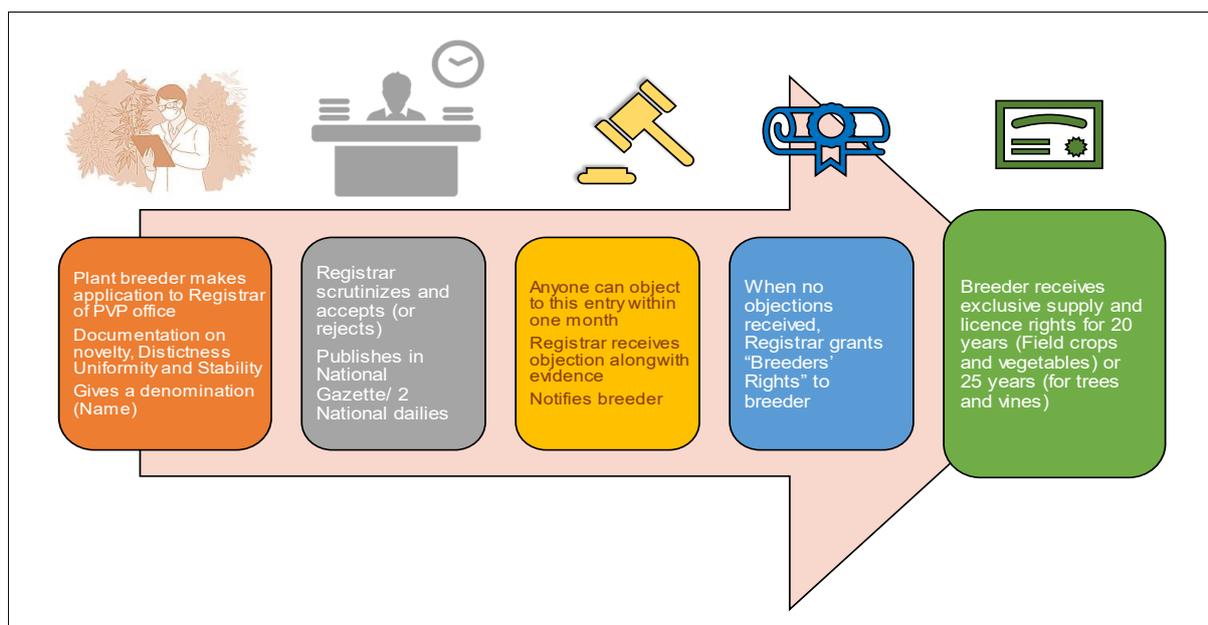


Fig3: Nigerian Plant variety Protection system

4. Need for the platform

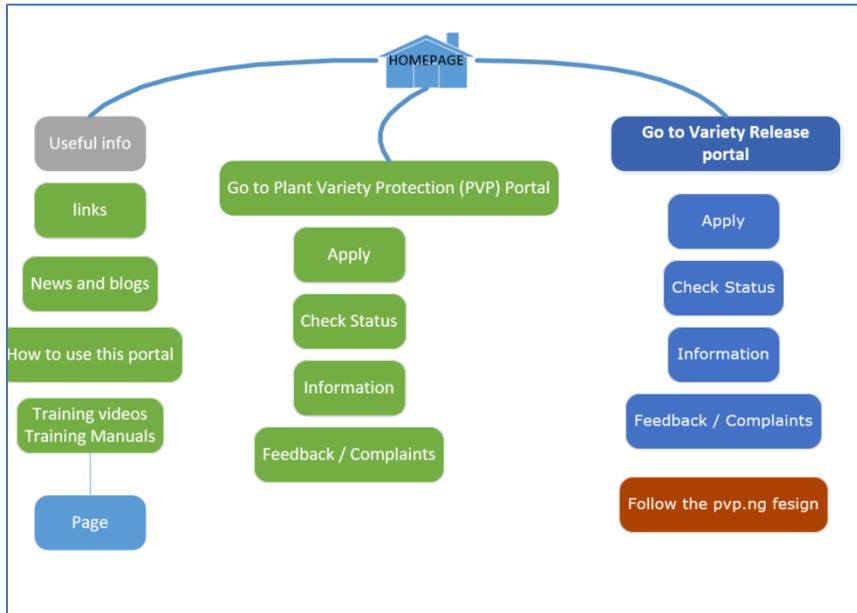
The basic requirement and a necessity for this platform is that currently, all these processes & procedures are happening offline or using paper documents, and it takes a lot of time for logistics, scrutiny, and approvals. Furthermore, indexing, searching for entries, or searching for information in paper filing systems is quite cumbersome. So it was decided by the Ministry of Agriculture that there should be a dual platform that will cater to the Plant Variety Protection and the Variety Release. Under the Collaborative Seed Programme (CSP Nigeria³), which is run by Wageningen Center for Development Innovation (WC DI), Sahel Consulting with the National Agricultural Seeds Council (NASC) as the apex decision-making body, two topics address the implementation of an online digital portal for plant variety protection and variety release. This concept note details the proposed system

5. Platform logic

This concept note will detail the platform's logic and architecture that will help to digitalize these paper-based processes under the Plant Variety Protection and Variety Release. The team envisages the creation of a front-end web portal, which will have general information about the structuring and the functioning of the Plant Variety Protection and plant Variety Release activities. Finally, it will link the plant variety protection portal and the variety release portal, which will be two independent portals with separate back-end systems. As discussed earlier, a plant variety protection platform is already available, so this concept note assumes that the plant variety protection portal will be built upon the existing platform.

The image below shows a tentative look at the 'front-end' of the application

³ Refer to <https://csp-nigeria.org/activities> for more details



The contents and the logic to the last detail will be planned at a later stage, but the below figure shows the wireframe architecture and the broad work logic of this dual portal.

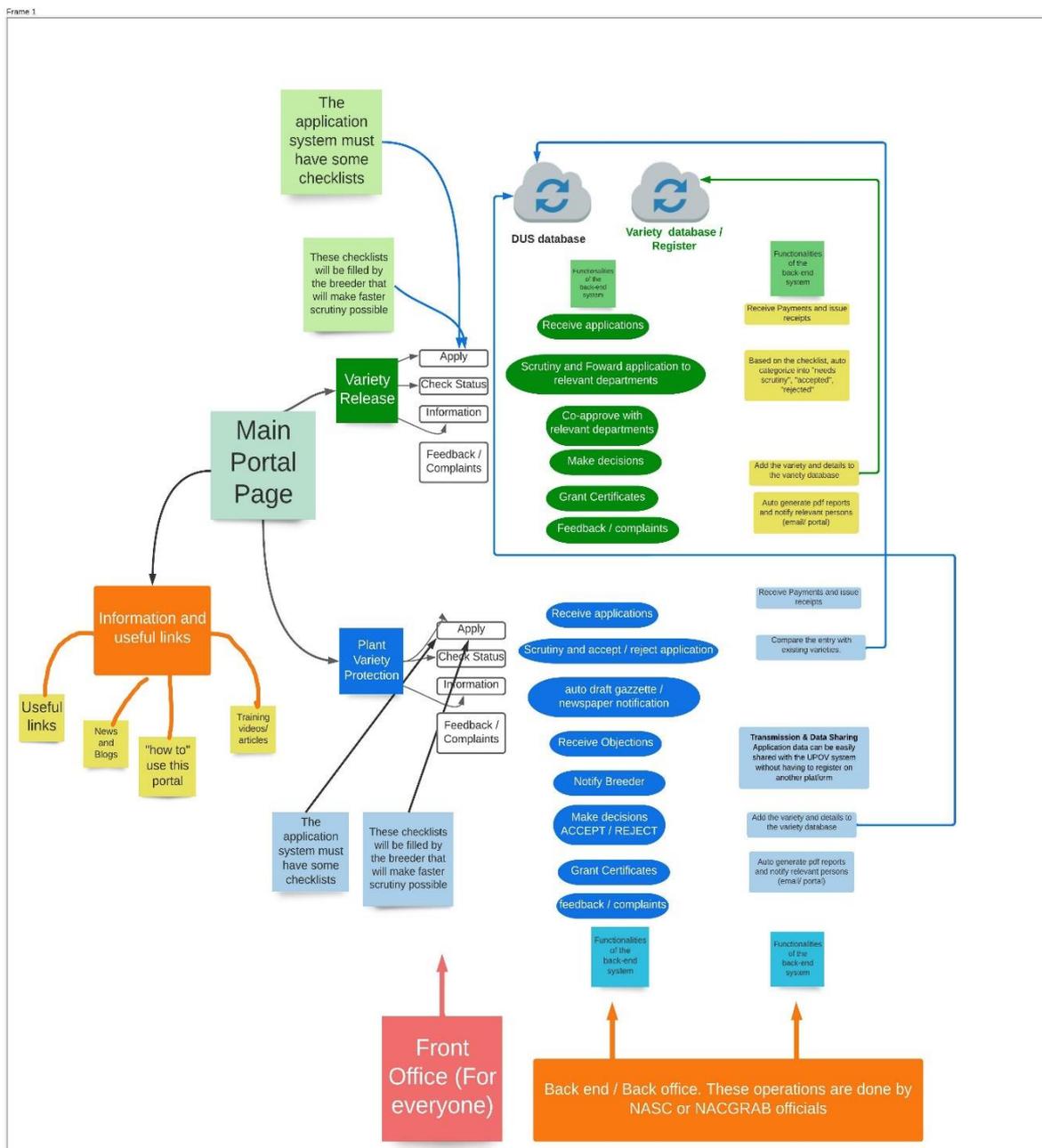


Fig 4: The portal flow diagram (tentative draft)

6. Functions of the PVP System

The following are the functions of the PVP system. This is in line with the existing platform (pvp.ng)

6.1. **Filing Application Online (front-office)**

6.2. **Transmission & Data Sharing (back-end)**

Application data can be easily shared with the UPOV system without registering on another platform.

6.3. **Application Reviews / Check status (Front office)**

Users can easily review applications made, check their application status, and make updates or reviews.

6.4. **Reminders for Novelty & Priority (info, front end)**

Facilitate the production and marketing of high quality seeds in Nigeria.

6.5. **Plant Variety Accessibility (info, front-office)**

Users can easily get information on all the available and registered plant varieties worldwide. This helps eliminate the need to search physical records

6.6. Receive payments in lieu of fees (back-end)

6.7. Make decisions on application and final grant of certificate (back-end)

6.8. Handle objections (back-end)

Objections will be received against an application within one month of the Gazette notification. The registrar receives this and communicates with applicant breeder to clear out the conflict. Application may be rejected on the grounds of lack of Novelty at this stage.

6.9. Update the database of protected varieties (PVP Registry) (back-end)

This will be done after the variety has been granted the Plant Breeders' Rights/certificate

6.10. Receive and handle feedback/complaints (front office and back-end)

Any feedback or complaints regarding an application, decision, or similar aspects will be received via the front-office portal and resolved at the back end. This will be as per the departmental guidelines already present.

7. Functions of the Variety Release portal

7.1. Receive applications

The primary functionality of the variety release portal will be to receive the applications and handle the data that the applicant breeder is uploading. The receipt will happen through the front office portal, which will be saved and stored under an auto-generated application number or code. The data or the reports of the multi-locational yield trials, on-farm trials, and DUS/on-station trials will all be uploaded through this front of his portal. The applicant breeder will also be asked to submit a checklist with some information, based on which, the variety release authority can accept/ reject the application outrightly or forward the application to other concerned departments.

7.2. Scrutiny of applications

The authority will also scrutinize these data and decide upon accepting or rejecting the entry by entering the back-end system. This will happen through a secure/password protected webpage/tool.

7.3. Co-approval with relevant departments

If necessary, this approval process might be shared with many other departments, especially the Variety release committee, which will also play a major role in the decision regarding the release and registration of a new variety. So the system will be able to forward the applications' approval rights to other admin-level users (Approvers)

The applicant breeder might need to present the findings of the different trials and the suitability of their variety to be released and justify it with distinctness, uniformity and stability data, and value for cultivation and use data. This is an offline process, but later we can include a video-conferencing facility into this portal where the breeder can make an online presentation.

7.4. Granting of certificates

Finally, the grant of certificates will also be made through this portal. A PDF file of the certificate will be generated and automatically can be emailed to the applicant breeder, or it can be printed and handed over.

7.5. Handling feedback and complaints

The front and back end will also be equipped to receive any feedback or complaints regarding the variety release process in terms of payments applications, uploaded data modification of data review of the application, and other similar aspects. From the back end, the approving authority will resolve these conflicts either by online method or by having a face-to-face meeting that is the offline method

8. User matrix

The user matrix determines this portal's front-end / front office and back-end users. Primarily all applicants and others without requiring any passwords can access this portal's front office/ front desk/ front end. They will use it to gain information and insights about the procedures of variety release or plant variety protection. They will also get information about online and offline processes and how this portal works. There will be ample information about conducting the on-farm trials, multilocation yield trials, and on-station trials, whose reports are necessary for the application for variety release and plant breeders' rights.

In this concept note, we will attach a matrix/table, which will explicitly indicate the admin users, approvers, content viewers, and super admins.

All applicants who do not require passwords to access the portal through the front desk will be designated as **free users**. All approvers, admins, and other officials responsible for decision making and forwarding application handling complaints will come under the **back-end users**.